00058916

BOMBAY BRANCH
OF THE
ROYAL ASIATIC SOCIETY.
TOWN HALL, BOMBAY.

Digitized with financial assistance from
Government of Maharashtra
on 30 January, 2020

YSICAL, HISTORICAL, AND MILITARY

GEOGRAPHY:

FROM THE FRENCH

OF

TH. LAVALLÉE,

ROFESSOR OF MILITARY HISTORY AND STATISTICS AT THE MILITARY SCHOOL OF SAINT-CYR.

58916.
ac.

EDITED,

With Additions and Corrections,

BY

CAPTAIN LENDY, F.G.S., F.L.S., &c.,

DIRECTOR OF THE PRACTICAL MILITARY COLLEGE AT SUNBURY.

Q + L 36

LONDON:

DWARD STANFORD, 6, CHARING CROSS, S.W.

1868.

00058916

PREFACE.

In 1836, Lavallée opened a new era in the study of Geography. Condemning the treatises put into the hands of youth as mere catalogues of towns, rivers, &c., he abandoned the path followed by his predecessors, and instead of taking for landmarks the political divisions, which are constantly changing, he adopted the physical features or natural divisions of the globe.

LATE P.

Lacroix, Humboldt, Ritter, &c., had already made an attempt in that direction, but it was reserved for Lavallée to render their ideas popular.

The division of Continents into Watersheds, Basins, &c., rendered the study of Geography so much easier, that in a few years the method of Lavallée was generally adopted, and his work was translated into the principal European languages.

In this country it has become familiar to a numerous class of readers, thanks to the late Colonel Jackson, who, in 1850, published a translation of a portion of an early edition under the name of "Military Topography of Continental Europe." This edition, however, is exhausted.

In 1865, two years before his death, Lavallée published a new edition (the seventh) considerably enlarged, and authorized me, his old pupil, to give it an English garb. I was encouraged by his promise of a preface in form of an introduction.

Owing, however, to the little time which daily occupation allowed me to spare, to the difficulty of rendering French

names into English or foreign ones, and to the necessity of correcting numerous errors which had somehow crept into the original, my task was not accomplished till too late for the promised preface of my deceased friend.

Recent discoveries and surveys have rendered several alterations necessary, whilst the wars of America, Italy, and Germany have obliged me to make many additions.

The student will observe that some countries, such as the British Islands, Russia, Sweden, &c., are treated much less fully than others, as France, Belgium, Spain, Germany, &c.; but this is not accidental. The details are proportioned to the extent of the military records of the various countries. Thus, countries which have long been the battlefields of European armies, such as Belgium, France, Italy, &c., are treated with a fulness of details which was not deemed necessary with respect to countries like Great Britain, Sweden, &c., which have not been, and are not likely to become, the theatre of future wars.

A. F. LENDY.

SUNBURY, *January*, 1868.

CONTENTS.

Book I.—PHYSICAL GEOGRAPHY.

PAGE

CHAPTER I.—THE INTERIOR OF THE EARTH 1

CHAPTER II.—THE SURFACE OF THE EARTH.

§ I.—Division into Seas and Lands 5
II.—Exterior and Interior Divisions of the Terrestrial Surface 5
III.—Study of the Land:—Mountains and Hills 12
IV.—Study of the Land (*continued*):—Valleys and Plains 17
V.—Study of the Waters:—Running Waters 19
VI.—Study of the Waters (*continued*):—Seas 25
Summary of the Terraqueous Surface 28

Book II.—POLITICAL GEOGRAPHY.

CHAPTER I.—MAN, CONSIDERED IN HIMSELF 29

CHAPTER II.—MAN, CONSIDERED SOCIALLY 32

Book III.—GENERAL DIVISIONS.

§ I.—Great Divisions of the Seas 36
II.—Great Divisions of the Land 37
III.—History of Geography 39

Book IV.—EUROPE.

CHAPTER I.—GENERALITIES.

§ I.—Description of the Seas 44
II.—Description of the Land 48
III.—History of the Geography of Europe 52

CHAPTER II.—Spanish Region.

PAGE

§ I.—General Ideas 58
II.—History of the Geography of the Spanish Peninsula .. 61
III.—Southern Watershed 63
IV.—Western Watershed 65
1. Basin of the Guadalquiver 66
2. Basin of the Guadiana 70
3. Basin of the Tagus 73
4. Basin of the Ducro, with the Secondary Basins of the Mondego and Minho 79
V.—Northern Watershed 86
VI.—Eastern Watershed (Basins of the Ebro, Jucar, &c.) 89
VII.—Balearic Islands 101
VIII.—The Azores, or Western Islands 102
IX.—Statistics (Spain and Portugal) 102

CHAPTER III.—French Region.

§ I.—General Ideas 103
II.—History of the Geography of Gaul 106
Table of the Principal Divisions of Gaul 112
III.—Northern Watershed of the Pyrenees 116
1. Basins of the Tech, Réar, Tet, Gly, and Aude .. 117
2. Basins of the Nivelle and Adour 120
3. Basin of the Garonne 123
Summary of the Frontier of the Pyrenees 131
IV.—Watershed of the Bay of Biscay 132
1. Basins of the Nivelle and Adour 132
2. Basin of the Garonne 132
3. Basins of the Seudre, Charente, Sèvres, &c. .. 132
4. Basin of the Loire 137
5. Basins of the Vilaine, Blavet, &c. 147
V.—Watershed of the English Channel (Basins of the Orne, Seine, Somme, &c.) 148
VI.—Watershed of the Mediterranean (Basins of the Herault, Rhone, Var, &c.) 170
Recapitulation of the Frontier of France in the Rhone Basin 196
VII.—Watershed of the German Ocean 199
1. Basin of the Upper Rhine (Left Bank) 205
2. Basin of the Middle Rhine „ 212

PAGE

3. Basin of the Lower Rhine (Left Bank) 220
4. Secondary Basin of the Escaut 226
Coast Streams, Coast, and Harbours between Cape Grisnez and the Mouths of the Meuse 234
Recapitulation of the Frontier of France in the Basins of the Rhine and Escaut 237
§ VIII.—Statistics (France, Switzerland, Belgium, &c.) .. 245

CHAPTER IV.—CENTRAL OR GERMAN REGION.

§ I.—General Ideas 246
II.—History of the Geography of the German Region .. 248
Table of the Prussian and Austrian States 258
III.—Watershed of the German Ocean 260
1. Basin of the Rhine (Right Bank) 260
2. Basin of the Weser 273
3. Basin of the Elbe 276
IV.—Danish Peninsula and Islands 288
V.—Watershed of the Baltic Sea 291
1. Basin of the Oder 291
2. Basin of the Vistula 295
VI.—Watershed of the Black Sea 297
Basin of the Danube 297
First Basin of the Danube 303
Second Basin of the Danube 316
Third Basin of the Danube 323
Fourth Basin of the Danube 329
VII.—Statistics (Austria, North German Confederation, other German States, Non German States) 334

CHAPTER V.—ITALIAN REGION.

§ I.—General Ideas 336
II.—History of the Geography of Italy 338
III.—Continental Italy (Basins of the Po, Adige, Bacchiglione, Brenta, Piave, Livenza, Tagliamento, and Isonzo) .. 343
IV.—Peninsular Italy 373
Western Watershed, from the Pass of Cadibona to Cape Spartivento 374
Southern Watershed, from Cape Spartivento to Cape Leuca 380
Eastern Watershed, from Cape Leuca to the Ronco 381

PAGE

V.—Insular Italy (Corsica, Elba, Sardinia, Sicily, &c.) .. 383
VI.—Statistics (Kingdom of Italy and Pontifical States) .. 389

CHAPTER VI.—Greek Region.

§ I.—General Ideas 389
II.—History of the Geography of Greece 391
III.—Western Watershed 396
IV.—Eastern Watershed 400
V.—Morea 404
VI.—Islands 406
VII.—Statistics (Greece, Turkey) 408

CHAPTER VII.—Russian Region.

§ I.—General Ideas 408
II.—History of the Geography of Russia 411
III.—Watershed of the Black Sea 414
1. Basin of the Dniester 414
2. Basin of the Dnieper 415
3. Peninsula of Crimea 418
4. Basin of the Don 421
IV.—Isthmus of the Caucasus 421
V.—Watershed of the Caspian Sea 423
1. Basin of the Volga 423
2. Basin of the Oural 425
VI.—Watershed of the Baltic 426
1. Basin of the Passarge 426
2. Basin of the Pregel 426
3. Basin of the Niemen 427
4. Basin of the Dvina 428
5. Basin of the Narva 428
6. Basin of the Neva 429
7. Peninsula of Finland 430
VII.—Watershed of the Arctic Ocean 432
Basins of the Petchora, Dwina, Onega, and Lapland 432
VIII.—Statistics 433

CHAPTER VIII.—Scandinavian Region.

§ I.—General Ideas 433
II.—History of the Geography of Scandinavia 435

PAGE
III.—Eastern Watershed 436
IV.—Southern Watershed 437
V.—Western Watershed 438
VI.—Statistics 439

CHAPTER IX.—British Region.

§ I.—General Ideas 439
II.—History of the Geography of the British Isles 440
III.—Great Britain 443
IV.—England 444
1. Southern Watershed 444
2. Eastern Watershed 446
3. Western Watershed 449
V.—Scotland 450
1. Western Watershed 450
2. Eastern Watershed 451
VI.—Ireland 452
1. Eastern Watershed 453
2. Western Watershed 453
VII.—Statistics 454

Book V.—ASIA.

§ I.—Division of the Seas 455
II.—Division of the Land 456
III.—History of the Geography of Asia 457
IV.—Watershed of the Arctic Ocean 462
V.—Watershed of the Pacific Ocean 465
VI.—Watershed of the Indian Ocean 474
1. Peninsula of Malacca 479
2. Rivers of Tibet and Burmah 479
3. Basin of the Ganges 480
4. Peninsula of Hindustan 483
5. Basin of the Indus 486
6. Plateau of Persia 488
7. Basins of the Euphrates and Tigris 490
8. Peninsula of Arabia 491

PAGE
VII.—Watershed of the Mediterranean 493
1. Syria 495
2. Asia Minor 498
3. Colchis 501
VIII.—Plateau of the Caspian and Aral Seas 501
IX.—Central or Chinese Plateau 504

Book VI.—OCEANIA.

§ I.—General Ideas 505
II.—Asiatic Islands, or Malaysia 506
III.—Polynesia 510
IV.—Australasia 511

Book VII.—AFRICA.

§ I.—Divisions of the Seas 513
II.—Divisions of the Land 514
III.—History of the Geography of Africa 515
IV.—Basin of the Nile 519
V.—Watershed of the Gulf of Sidra and Khabs 527
1. Barca Country 527
2. Regency of Tripoli 528
VI.—Northern Watershed of the Atlas 528
1. Regency of Tunis 531
2. Algeria 532
§ 1. Coast 535
2. Basins of the Tell 539
3. The Sahara 543
VII.—Sahara 546
VIII.—Basins of Senegambia 548
IX.—Basin of the Niger 551
X.—Basin of the Lake Chad 553
XI.—Southern Africa:—Watershed of the Atlantic Ocean .. 553
XII.—Southern Africa:—Watershed of the Indian Ocean .. 556
XIII.—Islands of Africa 559

Book VIII.—AMERICA.

PAGE

§ I.—Divisions of the Seas 563
II.—Divisions of the Land 565
III.—History of the Geography of America 567

SOUTH AMERICA.

§ I.—Patagonia 571
II.—Basin of the Plata 572
III.—Basin of the Marañon 579
IV.—Watershed of the Caribbean Sea 586
V.—Watershed of the Pacific 588

NORTH AMERICA.

§ I.—Watershed of the Pacific 590
II.—Watershed of the Gulf of Mexico 594
1. Eastern Watershed of the Caribbean Sea .. 594
2. Eastern Watershed of the Gulf of Mexico .. 595
3. Basin of the Mississippi 597
Rivers on the East of the Mouth of the Mississippi, as far as Cape Table 601
§ III.—Watershed of the Atlantic Ocean 602
1. Watershed of the Alleghanys 602
2. Basin of the St. Lawrence 608
IV.—Watershed of the Hudson's Bay and the Arctic Ocean 612
V.—Polar Lands 613
VI.—Columbian Archipelago 614
1. The Antilles 614
2. The Bahama Islands 620

ALPHABETICAL INDEX 623

ERRATA.

Page 78, line 14 from top, for *Moradel*, read *Moradal.*
82, 15 „ „ *for* ILDEFONS, *read* ILDEFONSO.
83, 3 „ bottom, *for* Entre Douro Minho, *read* Entre Douro e Minho.
85, 5 „ top, *for* TRAS OS MONTES, *read* TRAZ OS MONTES.
89, 13 „ „ *after* OVIEDO *insert* 3. SANTANDER.
„ „ „ „ *for* 3, BISCAY, *read* 4, BISCAY.
„ „ „ „ *for* 4, GUIPUSCOA, *read* 5, GUIPUSCOA.
93, 6 „ „ for *Col de Costouge*, read *Col de Coustouge.*
102, 23 „ „ for *San Michael*, read *San Miguel.*
„ 27 „ „ *for* XIX., *read* IX.
106, 2 „ bottom, *for* Narbonnaise première, *read* Narbonensis I.
117, 14 „ „ *for* BASIN, *read* BASINS.
132, 3, 4, 5 „ „ *for* I., II., III., *read* 1, 2, 3.
134, 3 „ top, for *Pertais*, read *Pertuis.*
176, 18 „ „ *for* Brigg, *read* Brieg.
204, 8 „ „ *for* 141, *read* 149.
208, 9 „ „ *for* INTERTAKEN, *read* INTERLAKEN.
210, 8 „ „ for *Klör*, read *Klön.*
219, 9 „ bottom, *for* Duchy, *read* Grand Duchy.
232, 3 „ top, *for* ROPELMONDE, *read* RUPELMONDE.
269, 1 „ bottom, *for* Duchy, *read* Grand Duchy.
270, 2 „ top, *for* the river, *read* the latter river.
278, 2 „ bottom, *for* TRAUTENAN, *read* TRAUTENAU.
299, 8 „ „ for *Scheideck*, read *Scheideck.*
311, 8 „ „ *for* Napolean, *read* Napoleon.
313, 21 „ top, *for* Tannen, *read* Tännen.
376, 18 „ „ *for* RAPELLO, *read* RAPALLO.
379, 12 „ bottom, *for* dell' Ovo, *read* del Uovo.
401, 18 „ top, *for* BAHR, KALESSI, *read* BAHR KALESSI.
„ „ „ „ *for* POLEOCASTRO, *read* PALEOCASTRO.
403, 5 „ „ *for* Uskibu, *read* Uskiub.
410, 16 „ „ *for* Artic, *read* Arctic.
417, 8 „ „ *for* Dolichitsy, *read* Dokchitsy.
„ 26, „ „ *for* Prujini, *read* Prujani.
418, 8, „ „ for *Worskda*, read *Worskla.*

of this opinion are:—1. The density of the earth, which is so great that its interior must consist of very much heavier matters than those composing the external crust;* 2, the existence of a central heat proper to the earth, independent of the solar heat, and which increases as we descend; 3, volcanic phenomena and thermal springs.†

2. The superficial part is only known to us by direct observation to a depth of 500 or 600 yards; but earthquakes and volcanic eruptions have brought to the surface portions of the interior which we could examine; moreover, as the highest mountains are not formed by an extreme accumulation of the latest strata, but by the upheaval of all the beds of which they are composed, it follows that an exploration of the substances composing a mountain 24,000 feet high, is equivalent to that of a plain to the depth of 24,000 feet.

This exterior crust is composed of an irregular series of strata of different kinds, piled one upon another at all sorts of inclinations, forming sometimes very extensive horizontal layers of very various thickness; sometimes masses vertically placed, overturned, up-heaved, and even curved and folded over. These strata are almost always traversed by cracks and cavities, some of which remain open, and play an important part in earthquakes; others are filled up with metallic matters, differing from those of the stratum, and called *veins*.

The whole of this crust shows marks of sudden‡ and numerous revolutions, which, by disarranging its structure and materials, have altered the relative extent and situation of water and land, caused variations of the nature and position of its surface, destroyed and changed the creatures inhabiting it. According to

* "The mean density of the earth is about five times that of water, consequently nearly double that of the mineral crust of the globe." (D'Aubuisson, *Traité de Géognosie*, t. i., p. 28.) With this density, the weight of the globe must be about 6,160,716 millions of tons.

† Vide *Discours sur les Révolutions du Globe*, by Cuvier; and *Lettres sur les Révolutions du Globe*, by Alexandre Bertrand.

‡ We need not have recourse to sudden convulsions, in order to account for the state of the crust of the earth. There is scarcely a spot of the globe which has not been sometimes above, sometimes under, water; and this constant oscillation, which even now is slowly going on under our eyes, is sufficient to account for the changes, however great, that have come over our planet.

the antiquity of those revolutions, indicated by the *fossil* organic remains* they contain, the layers are divided into *primary, transition, secondary, tertiary,* and *alluvial,* corresponding with the order of their depositions.†

Primary rocks are those found at the greatest depths to which man has been able to penetrate; they appear to have resulted from the first solidification of the earth. They are the ancient foundations of the entire envelope of the globe, and in the overturned and irregular position of these masses, they bear the marks of a primeval terrestrial revolution at a period when no organized beings existed. They are chiefly composed of granitic rocks, which appear to be the framework of the mineral crust of the globe, and they contain the richest mineral veins. The skeleton of mountains of the primitive order belong to this series of rocks.

Above them are found beds which partake of the nature of both primitive and secondary rocks; they are called *transition,* because they mark the passage of unstratified into *stratified* rocks—that is to say, into rocks whose structure consists of a succession of layers, which appear to have been deposited horizontally by sediment from water. "These are the rocks where primitive nature, dead and purely mineral nature, seems to dispute for the empire with organized nature." ‡ The schists, the calcareous rocks, and the sandstones§ are their principal elements; they contain, in their deepest beds, the impressions of gigantic vegetables, few of which have analogues among the existing vegetation, and in their latest beds the remains of zoophytes and mollusks.‖

* Fossils are divided into three classes:—Remains that have retained, in whole or in part, their natural state—these are chiefly bones and shells; petrified substances or stony bodies, the organic substance of which has been replaced by earthy or metallic matters; lastly, impressions.

† This classification into primary, transition, secondary, &c., rocks, is, in some degree, obsolete. The primary rocks alluded to are the plutonic or metamorphic rocks of the present day; the transition beds are the primary or palæozoic rocks of modern geologists; the secondary or mesozoic, the tertiary or cainozoic, and the alluvium or quaternary, remain the same.

‡ Cuvier, *Discours sur les Révolutions du Globe.*

§ The *schists* are soft, earthy rocks, of a laminated structure, like slates. The *calcareous* rocks are composed of carbonate of lime. The *sandstones* are aggregated rocks, composed of grains agglutinated by some sort of cement.

‖ *Zoophytes,* animal-plants; *mollusks,* invertebrate animals.

The transition is succeeded by the *secondary* series, almost entirely composed of calcareous and argillaceous rocks, and of banks of chalk and clay. They rarely possess metallic veins. In their lowest strata we meet with those ancient vegetables which form the vast accumulations of coal, which the manufacturers of the present day put to such great use; and in the upper strata the remains of organised beings in enormous quantities, especially marine shells, monstrous fishes, gigantic reptiles, most of the genera of which have no modern representatives. The flanks of the mountains of the primitive order, and almost all the hills of smooth undulating forms, belong to the secondary series.

Above them we find the *tertiary* series, whose rocks are less perfectly coherent, and their composition less uniform. There, among calcareous rocks, among accumulations of marl and argillaceous sand, we find the fossil remains of immense cetacea, of enormous quadrupeds, which have no living analogies, but which Cuvier succeeded in reconstructing; and the most remarkable of which is the *palæotherium*, an animal with a thick hide, partaking of the character of the rhinoceros, the horse, and the camel. Here, also, we meet with the bones of the *mammoth*, a kind of elephant, which has left thousands of its carcases in every latitude, and whose ivory tusks are so well preserved that they are still an object of commerce in northern Asia. The destruction of this ancient population of the globe took place, no doubt, in the last revolution it underwent, at which time man did not exist, for his bones have nowhere been found. "Where," asks Cuvier, "was the human race at that time? Did the animals that now co-exist with him on the globe, and of which no trace is to be found among the fossils, exist then? Have the countries where he lived along with them been engulphed, while those he now inhabits were elevated into dry land? Thus much is certain, that we are in the midst of a fourth succession of terrestrial animals, and that after the age of the reptiles, after that of the palæotherium, after that of the mammoth, there came the age when the human species, aided by some domestic animals, peaceably dominated and multiplied on the earth, and that it is only in the rocks formed since that period, in the alluvium, in the peats and the recent concretions

that we find fossil remains of the bones of animals which still exist."

The most superficial parts of the crust of the globe is composed of drift earths or *alluvium*, deposited by running waters, and formed of various kinds of detritus; they are almost everywhere covered with humus or vegetable soil, and in some places are mingled with the sands and shingles of the sea shores and the scoriæ of volcanoes.

CHAPTER II.

THE SURFACE OF THE EARTH.

§ I.—DIVISION INTO SEAS AND LANDS.

THE surface of the earth presents an irregular assemblage of depressions and elevations. These inequalities may be supposed to have been formed either by the raising up of the lower beds, or by the sinking of those beds.

The most considerable depressions are filled by a vast collection of stationary and continuous water; all these waters collectively are termed *oceans* or *seas*.

The most considerable elevations are masses of land rising to a greater or less height above the level of the ocean, separated from one another by seas, and constituting the *surface of the land*. Of these masses the two largest are called *continents*, all the others *islands*.

The *terraqueous surface* contains about 197 millions of square miles; of these, the ocean comprises 148 millions; the continents and all the islands, 49 millions; whence it follows that the surfaces of the globe, the seas and the land, bear the following proportion among themselves: 4, 3, 1.

§ II.—EXTERIOR AND INTERIOR DIVISIONS OF THE TERRESTRIAL SURFACE.

The ocean, by encompassing the continents and islands, gives to their exterior perfectly fixed and well-determined limits; but these limits have very irregular and often complicated

forms. Sometimes it penetrates deeply into the land, and there excavates a *mediterranean sea* or a *gulf;* sometimes it capriciously indents the shores, forming *bays, coves, creeks, roads, harbours;* sometimes it is contracted between two lands, and forms a *strait;* finally, it sometimes encloses betwixt two gulfs a portion of land called *peninsula,* because it would, in fact, be an island, were it not united to the continent by one side, which is often very narrow, called an *isthmus.* The ocean, by means of the various indentions it makes in them, gives the continents and islands a polygonal outline, the angles of which are marked by projections jutting out upon the coast, called *capes, promontories, points.* The *capes* are the most remarkable features of the exterior limits of the land, and we shall presently see that the sides of the polygon they belong to have a certain correspondence with the interior limits of the land.

When we take a cursory glance at the interior of the continents and islands, in order to discover divisions as clear and as natural as those which the ocean makes in their exterior, we see a system of elevations and depressions of such a complicated character, that it seems to be an inextricable chaos. But there is nothing isolated on earth, and nature shows on its surface, if not arrangements of a constant kind, and classifications of invariable character, still relations and analogies easily recognised. Thus the relations among the elements of the soil are such that the masses have the same physiognomy as their details, and that, as we descend from generalities to particular circumstances, we may follow the successive dependencies of each part. We should, therefore, endeavour to make the analytical description of the surface of the land by dividing and subdividing it in accordance with its chief framework into elements of detail subordinate to the general system of which they form part. Let us see what are the sure and invariable bases on which we may rest this analytical description.

If we look at the maritime limits of a continent or of an island, we shall observe that, proceeding from the shore, the soil rises gradually in the interior up to a certain series or *chain* of heights (mountains or hills), beyond which the soil sinks symmetrically to the opposite shore. Every continent or island may therefore be regarded as composed of two grand

planes of contrary slope, or *watersheds*,* united by their superior points into a ridge, running in the direction of the greatest dimension of the continent or island, and this ridge is termed the *water-parting*. Its two extremities are marked by two capes.

Each of these planes of general declivity is divided into secondary watersheds by chains of heights of the second order, perpendicular or oblique to the principal chain, and constituting water-partings between two opposite secondary watersheds, trending gradually downwards towards the shore. The extremity of each of these chains is marked by a cape.

Hence it follows that each two of these chains of the second order direct towards one another a secondary watershed, and these watersheds meet at their lowest points along a line followed by the *watercourse*. This watercourse is the channel of the waters which arise along the principal ridge and flow down the general watershed, following its lines of greatest declivity. This flowing water in it is called a *river*.

The two secondary watersheds, united at their watercourse (along with the part of the principal watershed which they intercept), constitute a *valley*. A principal valley has its origin

* The English word "watershed" has been too frequently used to represent the German word "*Wasserscheide*," the exact translation of which word into English is "water-parting;" for *scheiden* means to divide or part.

The Water-parting is then the boundary line between contiguous basins and watersheds. Lavallée himself calls it the "*ligne ou faite de partage des eaux*;" and Carl Ritter defines "*Wasserscheide*" as "*die mathematische Linie von welcher alle Fallhüttigkeit der Flusse beginnt*" (the mathematical line from which the descent of rivers begins).

Watershed is the equivalent of the French word *versant*, which comes from *verser*, to shed, as *verser le sang*, to shed blood; *verser des pleurs*, to shed tears. The watershed (*versant*) is the Slope between the water-parting and the watercourse. Hence this feature is called in German "*Abhang*" (slope), but never "*Wasserschaide*."

Watercourse expresses in English the feature to which Lavallée applies the German word "*Thalweg*." *Thalweg*, according to German geographers, is "das Bett, oder das Rinnsal des Flusses" (the bed or course of the river). Lavallée applies the word sometimes to a mathematical line, "*une ligne nommée thalweg*," but he also explains that this line is "*le chemin ou fil des eaux*" (the path or course of the waters). Carl Ritter employs the word "Rinnsal" instead, using it also in the sense both of a watercourse or channel, and of a mathematical line; so that there is really nothing to render the word thalweg preferable to rinnsal in German, cours d'eau in French, or watercourse in English.

at the main water-parting, and its termination on the sea-coast; its flanks are the secondary watersheds themselves.

Each of the secondary watersheds is divided into tertiary watersheds, and these are limited by chains of heights of the third order, parallel to the main ridge, and forming water-partings between two contiguous tertiary watersheds, which gradually descend until they become lost in the principal valley. The junction of each two of these tertiary watersheds produces the secondary watercourses, which fall into the principal watercourse at an angle that is usually acute, and in conformity with its plane of general declivity; they convey to the river secondary masses of water, called *streams* or *tributaries*. Two tertiary watersheds, united along a secondary watercourse, constitute a valley of the second order.

The tertiary watersheds are in their turn divided, and in the same way; they give rise to watercourses of the third order, and so forth in diminishing succession down to the smallest ravine furrowed by the tiniest brook.

The whole series of the valleys traversed by the river and its tributaries of the first, second, third order, &c., constitutes a *basin*.

Several river basins united form a *sea basin*, or *maritime watershed*. A basin of this sort, and often even a river basin, is bounded on the coast by two capes. These two capes are the extremities of two secondary ridges, which serve to enclose the said basin, and at the same time they are the extremities of one side of the polygon that constitutes the exterior limit of the continent; so that the continents are divided by nature into as many distinct parts as the ocean has traced on their circumference. The lines of heights and the watercourses form in the interior of the surface of the lands natural divisions as clear and invariable as the exterior limits formed by the seas.

To recapitulate, we thus see that the surface of the globe, which at first sight presents a chaos of depressions and elevations, resolves itself into *waters* and *lands*, into *ocean* and *continents*. The ocean gives to the continents a polygonal outline, sometimes projecting, sometimes retreating, the angles of which are the different capes of these continents. Each continent presents a broken surface, the elements of which are several

irregular planes, whose particular inclination is subordinated to one or other of the general inclinations of the continent. Each of these planes rests on one of the sides of the polygon traced by the ocean, and at the same time on the general water-parting, which line is the summit or ridge of the continental surface.

From these fundamental considerations we conclude:—

1. The direction of the waters indicates the relief of the land, and *vice versâ*, that is to say the ramifications of the heights and those of the waters corresponding, the precise figure of the fluid parts being known leads to a knowledge of the configuration of the solid parts. This is true, not only for the direction, but even for the dimensions of the valleys and the rivers; thus the size of the valleys is almost always proportioned to the volume of streams flowing through them, and the abundance of the latter to the elevation and breadth of the heights (mountains or hills) that supply them.

2. The best connected and most extended chain of the culminating heights of a continent or an island, has its principal ridge always running in the direction of the greatest dimension of this continent or island, and its secondary ridges in the direction of the greatest dilatations of this continent or island. Examples: Europe, the two Americas, the Italian peninsula, the Greek peninsula, &c. In a mass of land of elliptical shape, the chain will be its longer axis, and it will generally expand towards the centre, constituting a plateau. Examples: the islands of Corsica and Candia, Scandinavia, &c. In a mass of land of triangular shape, the system of mountains will trifurcate towards the three angles, and the island or peninsula will be a true triangular pyramid, whose base is at the bottom of the ocean. Examples: Sicily, North America, and perhaps also Africa. In a mass of land of quadrangular shape, the system of heights will follow both dimensions of this land. Examples: the Spanish peninsula, Arabia, &c. In a mass of land of circular shape, the island will be a cone, and the mountains will form a group, culminating in a peak. Examples: Teneriffe, Ceylon, &c.

There are numerous modifications of the generalities we have enunciated in an absolute and exaggerated manner, in order to introduce a semblance of order into the chaos of elevations and depressions of the earth's surface. Thus:

1. The elevation of the soil of one of the two sides of the general line of water-parting may be, in whole or in part, greater than that of the other. Whence it will result that one of the two watersheds will be the steeper, and that the water-parting will present curves and sinuosities; but it will, on the whole, always remain parallel to the length of the continent or island. Examples: Scandinavia, the two Americas, &c.

2. The general line of water-parting is rarely distinct and continuous; it is not always composed of the culminating points of the soil. Sometimes, indeed, it is only a rising ground, without apparent ridge, where the declivity is marked solely by the direction of the running waters. Example: the hills and marshes of Poland, which separate the waters of the Black Sea from those of the Baltic. When this rising ground becomes a very extensive and elevated terrace, dominated by some irregular summits, and whose borders are furnished with slopes more or less rapid, it takes the name of *plateau*, or *table-land*. Example: Central Asia.

3. The general ridge is sometimes divided into two lines, which, before reuniting, leave between them a plateau formed of the counter-slopes detached from the double ridge. This plateau, in some cases, does not belong to either of the two exterior watersheds. The waters which flow down these inner counter-slopes have their own interior receptacle, not communicating with the ocean. Examples: the plateau of the Caspian Sea, of the Sea of Aral, of Persia, &c. The waters of the plateau, which rise on these slopes, are only able to flow on to the exterior watershed by breaking through the ridge of mountains that surrounds the plateau. Central Asia being the largest plateau known, almost all the Asiatic rivers present this phenomenon.

4. It often happens that the secondary ridge which separates two basins of principal rivers, after having first formed a very compact spur of the principal ridge, bifurcates and terminates in two branches at the mouth of each of these rivers. These two branches thus enclose a larger or smaller space of triangular shape, having for its base the part of the coast included between the mouths of the rivers, and for its apex the point where the secondary ridge bifurcates. This triangle is a basin furrowed by

a *secondary river*, arising generally at the point of bifurcation. Examples: the Weser the Charente, the Mondego, &c. These secondary basins are of great importance in a military point of view, for they may be easily turned by merely crossing the ridge that separates the two principal basins, whereas we cannot turn a principal basin without crossing at least one other basin.

5. The series of heights which enclose a basin are not always continuous lines of walls separating the waters of this basin from those of the next basin; and all rivers are not necessarily separated from neighbouring rivers by an insurmountable barrier originally placed there by nature. A stream may rise in one basin, and become arrested, either by a change in the slope, or by lines of heights which run from right or left and obstruct its channel; in that case it deviates from its former course, and, running towards the limits of the basin, escapes through a depression and finishes its course in the next basin. This abnormal passage is assisted either by a local terrestrial commotion, which opens a breach in the encircling heights, or by the constant infiltration of water, which in the end wears away and destroys the obstacle. Almost all the basins of Asia and Africa present this character.

6. If chains of the third order, coming from the right or left, bar the course of a river, they stop it. If the dam thus formed is low, the river will pass it by a sort of fall; it will change its level and pursue its course in the second part of the basin. Examples: the Elbe, the Danube, &c. If the dam is of moderate height, the river will flow back, filling the first part of its basin with its own waters and those of its tributaries, and will form itself into a stationary and continuous expanse of water called a *lake;* but then the waters will soon rise to the level of the dam; they will pass it; the river will continue its course in the second part of its basin; and the lake will appear to be merely a transient dilatation of the river. Examples: the Rhone at the Lake of Geneva, the Rhine at the Lake of Constance, the St. Lawrence, &c. If the dam is so high that the waters of the river, or rather of the lake, can never rise as high (in consequence of the quantity of water that evaporates from the basin being equal to what flows into it), then the river and its tributaries will be considered as having their mouth in the lake which

serves to them the purpose of the ocean. Examples: the Caspian Sea, the Sea of Aral, &c.

§ III.—STUDY OF THE LAND.—MOUNTAINS AND HILLS.

Heights are called *mountains* or *hills*, according as they are more or less elevated.

A mountain has its *base* or *foot;* the side or *flank*, which forms its slope; the *crest* (croupe), which surmounts the flank; finally, the *summit*, the *top*, and the *culminating point.*

A series of mountains is arranged in *groups* or *chains* in a very complicated manner. Sometimes the nucleus or central knot is a cluster or pile whence radiate lines or chains, giving rise to *branches*, which are called *spurs*, when they are short, abrupt, and perpendicular to the chain; the whole is termed a *mass* (massif), and the union of several masses a *system.* Examples: the Alps, the mountains of Central Asia, &c. Sometimes the nucleus is itself a chain, whence branches proceed right and left. Examples: the Pyrenees, the Caucasus. Sometimes the groups, almost isolated and only united at their base, display a series of heights confusedly connected, and which are traversed in their deepest cuttings by watercourses. Example: the mountains of Algeria.

The mountains of each chain are in their turn united in a great number of different manners, which, however, may all be reduced to four general characters. In the first, the chain is formed by a series of groups and terraces, in which the principal ridge cannot be distinguished. Examples: the mountains of Algeria, of Albania, of China. In the second, the ridge attains such a breadth as to become a plateau. Examples: the interior mountains of Spain, of Asia Minor, of Africa, &c. In the third, it is composed of parallel walls of ever decreasing height, which join at certain points of their base, and whose general appearance is that of a sort of folding of the ground. Example: the Jura. In the fourth, it is composed of three parallel bands, joined in a compact manner and presenting distinct aspects. First comes the advanced chain, which is only a high plain rising by stages in a great breadth, with some mounds distributed here and there upon it; then comes the crest, very narrow and

The largest are from eighteen to twenty-four miles long, by five to seven broad. Their surface resembles a stormy sea, whose waves have been suddenly congealed. As their ice is not so hard as that of lakes and rivers, steps can be cut in them to facilitate the ascent of the slopes; and when their declivity is not great, it is practicable even for horses. In fact, it is by means of the glaciers that the ascents of the highest mountains have been made; they would have remained inaccessible, had it been necessary to scale their naked, impenetrable, and fissureless rocks.

The use of glaciers is to furnish continents, in a slow and continuous progression, with water, which, without this freezing process, would have flowed tumultuously from the mountain heights, inundating and devastating the country it ought to fertilize.

Some mountains contain *volcanoes*. By this word we understand sometimes the subterranean receptacles, where eruptions of incandescent matters are elaborated, sometimes the elevations caused by these matters. The superficial or submarine mouth of these receptacles is usually a curved cone of variable structure, called *crater*. According to the general opinion, volcanoes are the vent-holes by which a certain portion of the matters in a state of fusion that form the central mass of the earth escapes with violence in order to attain the surface of the ground; they are, in fact, so to speak, the safety-valves of the globe. They are very numerous. Some are found in mountain chains, and have their crater at the top, or on the flanks; others are in plains, and form mountains with the ejected matters; some are beneath the sea, and their ejected matters form islands that may become habitable. Most of them seem to communicate with one another, and they are almost all ranged in long chains in the islands or near to the sea. Volcanic phenomena are identical throughout the globe, and the matters ejected at the same period at different places perfectly resemble each other. Rocks of all the series, and principally those of the primary series, modified by fire, constitute the chief part of the ejected substances. The quantity of the latter is so great, that in a short time they form considerable mountains, and the force with which they are ejected is such that masses several thousand

cubic feet in size are thrown up to a height of from 3,000 feet to 6,000 feet. All known volcanoes, active or extinct, rest on rocks of the primary series.

The phenomenon of *earthquakes* is intimately connected with that of volcanoes, and probably depends on the same causes. The modifications produced on the surface of the earth by this terrible catastrophe: the ground opened up with deep fissures, large tracts of country swallowed up, mountains buried, plains elevated, rivers turned out of their course, lakes formed, &c., are well known.

Mountains exercise an influence on climate: 1st, by attracting the vapours that condense on their summits, watering and fertilizing the countries; 2nd, by opposing a barrier to hot and cold winds. They exercise an influence on the character of the people who inhabit them by their exhilarating atmosphere, to which is attributed their ardour, their energy, their warlike often fierce and even savage spirit, their love of the soil, and of independence. They exercise an influence by their situation, their bulk, their obstacles, and their geological formation, on the civilization and the destinies of countries, by separating without isolating them; by providing them with the most perfect means of defence, after deserts and seas; by opening to them numerous but difficult communications; by furnishing to them mineral and vegetable wealth, &c.

Mountains play the chief part in military operations. True ramparts of states, they interrupt the development of strategic movements, and render the greatest efforts necessary for their passage and their possession; they are the poetical part of the theatre of the art of war. As they offer numerous obstacles and an infinite variety of kinds of ground, peculiar combinations are required in order to practise on them the manœuvres of the different arms, and by the extreme subdivision of the armies which they necessitate, they demand intelligence on the part of every individual soldier.*

* See the campaign of Rohan in the Valteline in 1638; that of the Eastern Pyrenees in 1794; that of Lecourbe in the Tyrol; of Massena in Switzerland in 1799; lastly, that of the Archduke Charles in the same year.

§ IV.—STUDY OF THE LAND (CONTINUED).—VALLEYS AND PLAINS.

We have seen that the valleys form a system of ramifications corresponding to that of the mountains, and that where the slopes that contain them meet, is the lowest line in the district.

The high valleys are long, narrow, and deep clefts, generally traversed by torrents; their bottom rises as we approach their top, but this rise is not uniform. They are usually closed at their origin by a projecting angle of the chain, which leaves a narrow passage; they are there called *gorges;* sometimes they form a circular form at their origin, but in that case they do not form passes. When the valley is small in every way, and its banks have a gentle slope, it is called a *vale.* When the vale is merely a rent or excavation, the walls of which are vertical, it is called a *ravine.*

The valleys generally get larger from their origin downwards, and end by becoming lost in the plains; but this enlargement is not uniform, and is often interrupted by contractions. Some maintain a very remarkable parallelism in their flanks, so that their salient and re-entering angles correspond with one another. The soil of the valleys, too, does not descend uniformly; it presents a succession of gentle or rapid slopes, forming, as it were, successive basins.

The largest valleys are longitudinal—that is to say, parallel to the principal chain; their origin is at the central knot. Those that descend from the middle of the chain are nearly perpendicular to the direction of the ridge, whilst those at the extremities of the chain radiate in the form of a fan.

When both sides have a gentle slope, the valley is very open and tolerably regular, and the watercourse is in its middle; moreover, if the two lateral chains are of equal height and at equal distances, the bed of the current is uniform, and its banks equally steep and distant from the stream.

When one of the two sides has an abrupt slope, whilst the other declines gently, the watercourse runs nearer the former than the latter; the projecting angles scarcely ever correspond; the water, obstructed by frequent rocky barriers, digs out for itself a bed in the gentle slope, and returns again to the abrupt

one. In this case, one of the bounding chains is higher than the other, and the river, constantly thrown by the slope of the high mountains upon that of the lower mountains, makes the one bank steep and high, whilst it makes the opposite bank gently sloping.

Valleys formed by two steep slopes are generally very narrow and irregular; the curvature of the watercourse shows an infinite number of bends, but it alternately approaches the steepest side; shoals are very frequent, and they produce successive widenings and contractions without sensible correspondence between the angles. These three characters are all ordinarily be seen in a large valley.

Low valleys are those which enlarge, and whose bounding heights are lowered in such a way that they form large horizontal spaces or *plains*, where the terrestrial surface has undergone few or no disturbances. *Plateaus* or *table-lands* are only elevated plains, presenting the same uniformity as those of the valleys. Plains, moreover, are met with at all heights and on all kinds of ground.

There are some very large plains covered with herbaceous vegetables, which are called *steppes* in Asia and Eastern Europe, *karrous* in Africa, *savannas* and *prairies* in North America, *pampas* or *llanos* in South America. These are vast arid, sandy, or marshy spaces, sometimes traversed by running waters, and where for many hundreds of miles not a tree or a stone is to be seen; the ground is so level that often there are no inequalities even so high as twelve or eighteen inches.

Other arid spaces are called *deserts*, and are met with chiefly in Africa. They are for the most part saline plains, which only produce a small number of plants with thick leaves scattered over their surface. They are supposed to have been originally the bed of the sea; they are traversed by a few streams, which fall into lakes in the interior of the country. The largest and most formidable of those deserts are nothing but seas of sand, immense plains extending beyond the range of vision without trees, without streams, without mountains, where the eye wanders over a horizon flat and uniform like that of the sea, beneath a sky almost always burning and cloudless. The roads across these regions are indicated by some springs or pools

of brackish water, which the moving sand, driven by the wind, sometimes covers up. Here and there in the midst of these deserts we meet with island-like spots provided with streams and a rich vegetation; these are called *oases*.

The valleys and the plains exercise an influence on the climate: first, by giving passage to hot and cold winds; secondly, by allowing their waters to dry up if their soil is rocky, naked, or unfavourable, whereby they are transformed into deserts; or by allowing their waters to spread all over them if their soil is wooded, and flat, whereby they are transformed into lakes; or, finally, by becoming fertile, populous, and healthy countries, if the soil is favourable, the waters abundant and well banked, the woods well distributed, &c. They exercise an influence on the character of the people inhabiting them, those of the deserts being nomadic and savage, those of the marshy districts miserable and sickly, those of the fertile plains industrious, intelligent, and civilized; but generally the inhabitants of flat countries have less warlike ardour, and are less jealous of their liberty than the inhabitants of mountainous regions.

Deserts and marshes are almost insurmountable obstacles to military invasions; the vast and fertile plains are the usual theatres of war. In regard to high valleys, their system of defence or attack is intimately connected with that of the mountains, and "once we are masters of the plains, where the local obstacles cannot interfere with the arrangement and the direction of the movements, we are strategically masters of the mountains." *

§ V.—STUDY OF THE WATERS.—RUNNING WATERS.

We have seen that the rivers form a system of ramifications analagous to that of the valleys and mountains.

The sources of rivers and their tributaries of every class, are small reservoirs of water fed by the precipitation of the vapours of the atmosphere, and situated generally on the heights that attract the clouds. The most important of these reservoirs are

* Archduke Charles, vol. i., p. 27. See also Mathieu Dumas, *Précis des Événements militaires*, t. iv.; and Jomini, *Histoire des Guerres de la Révolution*, t. v.

met with in the glaciers, where they are constantly fed by the melting of the snow on their surface and the ice of their base.

The channel in which the stream runs is the *watercourse* or *bed;* its size increases from the source to the mouth; its banks may be flat, gently sloping, steep, or vertical.

The mouth of a river is generally at right angles to the sea-coast where it discharges itself; hence its waters have often to struggle against those of the sea, which sometimes roll up the river in a wave of considerable height and velocity. This phenomenon, very dangerous for navigation, is called a *bore* (*mascaret d'eau*). The tributary streams usually fall into rivers at an angle less than a right angle, whereby their *confluence* takes place almost without any shock.

The height and the situation of the sources determine the slope of the streams; and this slope combined with the length of the river or of the tributary affects the current of the river, making it rapid or slow, devious or regular, winding or straight. If the source be high and the impenetrable beds where the atmospheric vapours are condensed be steep, the flow will be abrupt, irregular, and abundant; if the source be low and the impenetrable beds horizontal, the flow will be slow and gradual. If the source be high and the valley short, the waters will form a rushing and devastating torrent; if the source be low and the valley long, it will be a peaceful and beneficent stream. The fall is not uniform throughout the whole length of the course. Towards the source it is usually very great, and gives the waters the appearance of a torrent corroding its banks, excavating its bed and bearing along with it rocks and soil. In advancing, it becomes diminished and destroyed by obstacles; then the water deposits the earthy or rocky matters it has borne along with it: sometimes on its banks, whereby are formed the embankments that canalize it, and assure the regularity of its course; sometimes in its bed, whereby its bottom is raised, and islands, banks, and *alluvium* produced, and the slope destroyed to such an extent that the pressure of the water alone communicates motion to the mass.

* A current whose velocity is 6 inches per second carries fine sand along with it; if the velocity be raised to 8 inches, the waters will transport sand of all sizes; at 32 inches it will displace fine gravel, at 33 inches it will

ase the deposits increase as we approach the sea; ed rises, the slope diminishes; then the substances ng with the stream, rolled, broken, and worn by transformed into fine earth, and, as it were, into s; they form shoals which in time become so consider- the river can no longer find an exit, and floods the g land. Hence it happens that human industry is elled to trace an artificial bed for the river by dyking nd making it flow over a track which has to be con- ed above the natural level of the valley; then there any fall, the mouth of the river advances into the rming long promontories on its sides, and after some towns which were originally flourishing seaports are found e some miles inland. Examples: the Po, the Rhine, the o, &c.

The slope undergoes abrupt variations when the basin has veral levels, and the river passes from the upper to the lower arts, either by flowing through a narrow and deep defile, or by aking a fall, which is termed a *waterfall* or *cataract*. When he water cannot open for itself a bed or a passage in the rocky dge opposed to it, it does not always dilate so as to form a ke; sometimes it penetrates to a lower stratum, and then reads out into a collection of subterranean waters, mining he superincumbent soil, causing it to fall in, and often chang- ng a fertile place into a dismal swamp. At other times the tum to which it penetrates being permeable, it pierces it, ows it, and reappears when that stratum meets the surface of ground; in such a case, the rocky ridge that covers it seems a natural bridge. Examples: the Guadiana, the Rhone, &c.

he rapidity of running water is not always proportioned to slope; the windings, islands, and shoals diminish it, even hile the slope remains the same; the tributaries increase it, specially if they do not materially widen the bed; for then the depth increases, and that is almost always proportioned to the rapidity.

The rapidity is not equal throughout the whole breadth of the

bed; for as the banks offer the most obstacles, it i
the banks to the middle. In the straight parts of
velocity being equally diminished on both banks,
are found to be symmetrical on each side, and
rises regularly. But when the stream is deflec
obstacle on one of its banks, it momentarily chan
rection, and runs more or less obliquely against the
where, by its continued action, it forms a steep bank (
is then compelled by the obstacles it encounters to
more, and so to form also a steep bank on the ot
that the winding parts of its course show alterna
and steep banks; the beaches occupy the projecting an
the steep banks the receding angles; moreover the gr
depths of the river are at the foot of the scarped walls, cu
alternately on either side.

From this we derive an important hint for discovering *ford*
that is to say, the parts where rivers may be passed on fo
They are always situated in the straight parts of watercours
and the shallowest point in the winding parts is on the si
where it shelves.

Fords offer different characters according to the nature of
countries the rivers run through. In hilly countries they a
obstructed by large stones, inconvenient for horses, and i
practicable for carriages. In countries of moors or heaths, the
are formed of fine and moving sand, dangerous and changeabl
in countries of cultivated plains they have a gravelly bot
are easy and permanent.

The volume of the water of a river depends not only on
its source supplies, but also on the length of its course, o
number and size of its tributaries, on the importance of the n
tains that gird its basin, on the more or less perfect canaliza
of its bed, on the nature of the soil, the state of the atmospher
the temperature of the country, the quantity of wood in th
valley, and finally on the quantity of water absorbed by th
vegetation covering its banks.

This volume varies with the seasons, and all rivers a

floods are periodical and regular, and derive their origin from the continual and regular rains which fall in the mountains where they rise; these inundations, spreading over all the basin in succession, deposit on the soil a fertile mud, which produces the wealth of these countries.

In temperate countries where the seasons are variable, the floods are accidental and sudden; they cause great ravages, cover the borders with stones and earth, make the banks fall in, and sometimes change the bed. These inundations are owing to the waters which flow rapidly over the surface of the land without penetrating it, during times of great rain or of the melting of the snow. These waters are very soon spent, and cease to supply the river as soon as dry weather comes; whereas had they remained, they would have saturated the ground, and descending to the impermeable strata, would have supplied the river for a long time in place of swelling it for a few days. See, then, what an influence the forests exercise over the ...ng of a country by arresting the too rapid flow and ...ation of the waters, and forcing them to go slowly and to ...te themselves into the ground drop by drop. Many ... of country that were in ancient times fertile and ...us, have become incapable of cultivation, dry and desert, ...count of being too much deprived of wood; the conse... of which is that the rain-waters no longer being ar... gradually wash away all the vegetable soil into the ... where it forms deposits of earth, and thus the ground ...led by the rains becomes more and more arid and unin...ble.

... rivers of temperate countries present an important ...nce in their floods. Those that descend from ground ... great height have only extraordinary floods in the great ...nnal rains; but those that come from high mountains have ...ng the year periodical floods of a pretty regular character, ...sudden and destructive; the first in March and April, when ...great snows melt; the second in July and August, when the ...ainder of the snow is melted by the great heat.

The frequency and intensity of the inundations may be dis...red by examining the little plains formed by deposit from ... rivers, on both sides of the watercourses. The more frequent

the inundations, the higher are these plains, and the more ex
tensive the inundations, the larger are the plains.

Inundations sometimes give rise to a remarkable accident in
districts where the water-parting is so slightly elevated that the
rain-waters hesitate which direction to take. The rains having
fallen in large quantity on the soft and marshy ground of the
water-parting, form ponds in which the overflowing water of
the two lateral currents collects at the time of the inundations.
This natural phenomenon is imitated by human industry in the
construction of canals uniting the waters of two contiguou
basins.

Countries owe their fertility, civilization, and prosperity t
the abundance and situation of their rivers. The great centre
of population, commercial wealth, industrial establishments, an
resources of all kinds are met with on their courses. The
offer the easiest natural roads, and are intersected by the mo
important communications; they are, as Pascal says, "
roads that carry us whither we wish to go." According
nature of their bottom, the volume of their water, the de
the width of their bed, they are *navigable* or *floatable*
gable, when they can carry ships or boats; floatable,
they can only carry rafts of timber.

Great rivers often serve as frontiers of states; but wh
do so they are much inferior in importance to those for
seas and mountain ranges; they are boundaries rathe
barriers. Hence rivers are the physical obstacles that n
most fortified; they are used either as lines of defence
bases of offensive operations. The passage of a river is
the commonest and most difficult operations of war; th
slightest natural accidents, the projecting and retreating
of the banks, the command of one bank by the other, the i
and the fords, the bridges and the roads, the breadth an
depth of the bed, &c., become of importance. "Whe
think of the care, the precautions, the materials require
such an operation, of the concurrence of circumstances req
to make it succeed, of the disasters that the slightest dera
ment by the enemy may occasion, we are astonished that it
succeeds. Still, paradoxical as it may seem, the most dif
operation in war is the one that almost always succeeds, an

which indeed it is most difficult to make an effectual opposition, especially when the river has great lateral communications. Frederick the Great held that it was impossible to prevent the passage of a river twenty leagues long."* Napoleon was of the same opinion. "It is only when the two armies are of equal strength that the lines formed by rivers, presenting good positions, can be favourable for able manœuvres, and restrict the theatre of war for a longer or shorter period."†

§ VI.—STUDY OF THE WATERS (CONTINUED).—SEAS.

The Ocean, receptacle of almost all the running waters in the world, is an immense lake, above which rise the continents and islands.

We have seen what shapes it gave to the exterior limits of the continents; its action on the walls of its vast basin presents also the greatest variety. Some coasts are very high, and the water at their foot is very deep; others are only low lands with a little slope, sandy shores dominated by small hills; some surrounded by a girdle of rocks at the level of the water, and reefs that make them unapproachable. The coasts commonly met with are of moderate height, formed of what are called *cliffs*.

We have seen that the rivers on falling into the sea frequently deposit a large quantity of mud and sand; the waves of the sea beat back this mud and sand, and distribute them over the coast on the right and left of the mouth of the river; the successive deposits formed in this manner, in course of time, raise the soil so high that the sea cannot again submerge it. In this way the ocean seems to have retired in certain places, such as Adria, Aigues-Mortes; the soil of Holland has been formed entirely of such deposits.

The sand thrown by the sea on the shore, besides forming beaches, is often driven by the waves and the winds into the interior of the country, when it forms hillocks called *sandhills*. However human industry has failed to stop these sandhills, which have advanced inland as irresistibly as the alluvial deposits of the river advance into the sea; they form small

* Jomini, *Vie de Napoléon*, t. iii., p. 192.
† Mathieu Dumas, t. xiii., p. 257.

chains parallel to the coast, and push before them ponds formed by the rain-water, which they prevent from communicating with the sea. In some places they advance with frightful rapidity, burying forests, cultivated fields, and everything in their progress. Those of the Bay of Biscay have already covered a large number of villages mentioned in public deeds of the middle ages, and it has been calculated that in 2,000 years they will have reached Bordeaux.

The depth of the ocean is very variable; it is only known near the coasts, but it would appear that its average is not more than 16,000 feet; whence it follows that the total mass of the waters is not quite 480 millions of cubic miles—a small volume compared with that of the land, which is, as we have before said, more than 260,000 millions. Its bottom presents a system of elevations and depressions analogous to those on the terrestrial surface, and it is inhabited by an infinite number of peculiar animals and vegetables. Immense rocks of granite met with there, and also vast valleys of sand. The islands which we see collected in groups are only the heights of a submarine plateau; and when they appear arranged in a line they are the summits of a submarine mountain chain. Sand-banks and the shoals are the parts nearest the surface of the ocean; they are caused by the movements of the sea, which transport quantities of sand and deposit them at certain places; they are sometimes several hundreds of miles long, and are very dangerous to navigation.

The most ancient historical data prove that the level of the ocean has not altered since the last physical revolution of the globe; but it would appear that this level is not everywhere the same.

The waters of the ocean are not in a state of perfect rest. They have a number of peculiar movements, which may be reduced to three kinds; 1st, sidereal movements, or *tides;* 2nd, proper movements, or *currents;* 3rd, atmospherical movements.

1st. The tides are regular and periodical movements of the *mass*, produced by the attraction of the moon and sun. The movement which causes the sea to rise until it is *full* or high tide, is called the *flood;* the movement that makes it fall until it is *low* tide is called the *ebb.*

The tides are felt in the rivers to a distance proportioned to the slowness of their fall and the size of their mouth; a shock is thereby caused between the water of the river and that of the sea, in which the latter proves most powerful and violently pushes back all that it meets with on its passage.

The height of the tides depends on local circumstances, and especially on the form of the gulf, bays, and straits. They are almost insensible in inland seas because the communication of those seas with the ocean is very narrow, and their small extent of surface can only undergo slight movements.

2nd. The proper movements of the ocean take place only in certain parts of its mass, in spaces of greater or less extent, in various directions, and at irregular times. Most of the great currents are accompanied by counter-currents, which tend to establish the general equilibrium of the waters. Besides these regular currents, there is a multitude of others of great variety of character, which cross, repel, and break up one another, under the influence of the accidents of the coasts and the bottom of the seas, the action of the winds, and the movements of the tides. The most considerable of the currents is the equatorial current, known by the name of *the gulf-stream*;* probably caused by the *trade winds*, which blow constantly from the east and by the rotation of the earth.

The atmospheric movements are produced by the action of violent winds which cause the tempests. They are confined to the surface of the sea; and in the most violent storms the water is quite still at a depth of forty yards. In unconfined seas the waves produced by those winds are longitudinal, short, and not very high; but in seas of a restricted character, or subject to various currents, they are broken, short, irregular, and sometimes of great height.

The water of the ocean is salt and bitter; its density varies according to the quantity of salt it contains. The greatest proportion is 45 per 1,000. This saline character preserves the water from putrifying; its cause is unknown. The cold seems to have no influence over it, and it does not vary with the lapse of time.

* *Vide* America, § 1, Divisions of the Seas.

The temperature of the sea diminishes the deeper we go; bu it is said to increase below 1,200 yards. The sea freeze towards the poles, where it forms vast fields of ice that preven navigation. In the southern hemisphere the ice descends to latitude 40°, and becomes perm[illegible]anent at 70°; whilst in the northern hemisphere the ice does not extend below 50°, and is only permanent at 80°.

The sea is the vehicle of civilization. Next to agriculture navigation is what has contributed most to the progress of man it has stimulated his intelligence, and given full play to l sociable tendencies. The form given to a country by deep ba numerous straits, and projecting peninsulas, is an element prosperity and the foundation of its greatness. Mariti nations are bold, energetic, speculative; they have more t[illegible] others the lust of conquest.

SUMMARY OF THE TERRAQUEOUS SURFACE.

The external configuration of the lands depends on the s which determine their outline, and their internal configurat on the system of mountains and rivers that traverse them; he still and running waters, heights and valleys, comprise all grand physical accidents of the globe; accidents wh the modifications they effect on the productions, clima populations, divide its surface into regions, the limits [illegible] being fixed by nature are independent of the imaginary [illegible] which man's necessities or caprices have invented. physical regions, which are the bases of the rational s geography, comprise sometimes one or more river-basins times one or more sea-basins; considered as an isolated they have their general line of water parting, which [illegible] them into two principal watersheds; their external formed by the seas, their internal limits by the rive mountains, &c. These divisions seem to have been estal by Providence, in order to fix certain peoples, certain r the countries proper to them; they have created nation states, societies; and though often violated by conques treaties, they have had the greatest influence in all the p revolutions of the world.

BOOK II.

POLITICAL GEOGRAPHY.

CHAPTER I.

MAN, CONSIDERED IN HIMSELF.

addition to the organic bodies embedded in it, the earth con-
ns on its surface vegetables and animals, which are distri-
ted over and located on it in an almost invariable manner, and
ose numbers usually diminish from the equator to the poles.
e number of known species of vegetables is upwards of 80,000;
f known species of animals, upwards of 100,000; 20,000 of
e vertebrated, and only 15,000 mammiferous animals.
all these beings rises *man*, the last effort of creative
hose existence is not dependent on any particular soil,
can accommodate himself to all climates and live every-
We will now proceed to study the earth as the domicile
empire of man.

forms a single species divided into a great number of
, the principal of which are: 1, the European, who has
skin, a head nearly spherical, an oval face; this variety
Europe, Western Asia, and Northern Africa; 2, the
who has a yellow skin, a nearly square head, a broad
ttened face; this variety inhabits Eastern Asia; 3, the
an, who has a very dark skin, a contracted head, and
ent face; this variety inhabits the islands of Oceania, or
chipelagos of the Indian Pacific Ocean; 4, the Negro,
as a black skin, a narrow head, and projecting face; this
y inhabits Africa and the islands of the torrid zone; 5,
merican, who has a copper-coloured skin, a round head,
road face; this variety inhabits America.

The total number of human beings may be between seven and eight hundred millions.

Man is a creature eminently religious, affectionate, and intelligent; to believe, to love, to know, are the necessities and the functions of his being; and speech, or the facility of expressing his ideas and sentiments by articulate sounds, is the physical manifestation of those wants and of those functions by which humanity shows its perfectibility; individuals fall and die; the species marches onwards and lives.

Mankind manifest the religious sentiment in a great number ways, which may be divided into two grand classes—*polythe* and *monotheism*.

Polytheism is divided into—1. *Fetichism*, in which m deifies the productions, the forms, and the phenomena nature; this is the religion of the most savage tribes. *Sabeism*, in which man adores the heavenly bodies; tl religion, which was adopted by almost all the nations of a tiquity, has very few followers now-a-days. 3. *Mythological P theism*, in which the attributes of God are personified under t form of separate divine beings; this is the religion of civi antiquity; it has no followers in modern times. 4. *Bral* in which the supreme being is divided among inferior d who appear under various celestial, human, and animal one of these, Brahma, presides over the earth; this is ligion of Southern Asia. *Buddhism* may be regarde metaphysical reformation, in which the supreme bein placed by a luminous space containing the germs of al creations, and beyond which is an eternal and indest space, where dwell the fortunate ones who have con divested themselves of matter, and who occasionally upon earth, where they incarnate themselves in order to p the salvation of mankind; these inferior divinities are *buddhas*. This is the religion professed by Eastern Brahmanism and Buddhism have more than 200 milli followers. 5. *The Religion of Fo*, a kind of pantheism which the idea of a supreme being has almost entirely peared, and which has, for subdivisions, the *worship of s* the *worship of Sinto*, &c., materialistic religions, but ill-u stood, which are practised in Eastern Asia.

Monotheism is divided into—1. *Judaism*; 2. *Christianity*; 3. *Mahometanism.*

Judaism acknowledges no other revelation except that which was made to the ancient Hebrew people by Moses and the prophets, and it still expects the advent of the Messiah. The Jews, the number of whom is about 4,000,000, are at the present day scattered all over the world.

Christianity acknowledges, besides the revelation of Moses nd the prophets, that which was communicated by Jesus; it is e religion of liberty, of civilization, and of charity. It is vided into the Latin or Western European Church, and the eek or Eastern European Church; the former has 200 llions, the latter 70 millions of members. They differ in spect of the supremacy of the Pope as the Vicar of Christ, the gma of the Holy Ghost, and some points of discipline.

The Latin Church is divided into—1. *Catholicism*, which knowledges as its head in matters of faith the Pope or Bishop Rome, and adopts seven sacraments of divine institution; it s about 180 millions of members. 2. *Protestantism*, which *kno*[illegible]*dges no* other authority in matters of faith besides the mits no sacraments but baptism and the Lord's supper, nsubstantiation, the mass, the celibacy of priests, the of images and saints, &c. It is divided into a multi- ects, the principal of which are: the *Lutherans*, who real presence under the elements of bread and wine, siastical hierarchy, &c.; the *Calvinists*, who reject prin- hese two doctrinal points. Protestantism has about 80 of members.

ometanism professes to be the continuation and com- of Judaism and Christianity; it rejects the Trinity and raments, allows a plurality of wives, imposes the practice uncision, alms, fasting, abstinence from wine, and daily ns, &c. It is divided into two great sects, the *Shiites* and *nnites*. The Shiites look on the three first successors of net as usurpers, and Ali, the fourth, as the true vicar of the t; the Sonnites assert that sanctity regulated the order of sion, and that Ali is inferior to his three predecessors. netanism is professed by Western Asia, Northern Africa, small part of Europe. It has about 100 millions of followers,

Man manifests his affectionate faculty only by the love of family when in the savage state; by the love of family, tribe, o city, when he commences to form himself into societies; by th love of family, city, and country, when he is civilized; by the love of family, city, country, and the human race, when he has the happiness to be a Christia.

CHAPTER II.

MAN, CONSIDERED SOCIALLY.

MAN manifests his intelligence by his knowledge and practice the fine arts, of the sciences, and of manufactures, by mea of which he has possessed himself of all created things a made them subservient to his moral, intellectual, and physic improvement.

Man is essentially social.

Society is the application and the action in comm of the moral and physical faculties of a certain numbe sons with a view to their individual and collective ment.

According as a people is nomadic or sedentary, thei tion is more or less strong and durable; in the for they can only be hunters or shepherds; in the latter agriculturists and manufacturers. The sedentary state fore the condition indispensable to the civilization of a

The end of human activity being moral, intellectual, a terial, it would seem that we ought to call *civilized* those whose social state fulfils this threefold end; *barbarous*, whose social state only fulfils it partially; *savage*, those social state in no way fulfils it. But there is much vag and uncertainty in these various appellations; all we can that a people is not progressive unless it works towa development, be that moral, intellectual, or material.

The *family* was the first form of human association; it became enlarged into the *city* or the *tribe*, and later in *state*.

By a *state* we mean a space on the terrestrial surface, the habitants of which are united in society and live under the me government. When the inhabitants, in addition to their social union and common government, speak the same language, sympathize in their ideas, beliefs, and interests; in short, live the same moral and political life, they form a *nation.*

By *government* we understand the various modes of delegating, ncentrating, and dividing the physical and moral forces of the e; in other words, *power.* According as power is confided to gle hand, to several, or to all, the government is monarchical, ocratic, or democratic. These various forms of government a great variety of shades; thus, monarchy may be despotic, olute, feudal, tempered, constitutional, aristocratic, demo- tic, &c.

The power delegated by society to its government is *legis- ve* or *executive,* according as it is charged with making laws seeing to their execution. The executive power is divided rative purposes into religious, judicial, military,

ne of a civilized state is the sum of the *taxes* iquidate its expenses. The taxes are levied directly ns or the goods of the citizens, or indirectly on the consume or of which they make use. The public tain monopolies, fees, &c., go to increase the revenues When all these means are insufficient, the state l this it is that constitutes its *debt.*

rliest times when the races of men were divided, ed confined to islands or to portions of continent v mountains and rivers, having no communication her races in their neighbourhood, except in war; it that human settlements began. The habitations, at red, began to be constructed near one another, and in rmed *villages, towns, cities.* These we find generally the sea-side, on the banks of rivers, at the outlet of ys, more rarely on mountains. Then the towns and onnected themselves together by *roads.* The first roads followed the course of the rivers to connect the chief the same basin; the second that of the tributaries, to he opposite watersheds of two basins; the last and the

most difficult were traced parallel to the crest of the mountain
In later times these modes of diminishing physical obstac
were found to be insufficient, so rivers contrary to nature we
constructed, that is to say, a water road or *canal* was constructed
between two contiguous basins across the chain of mountains
that separated them, the lowest part of the chain being chosen
for its passage, and the differences of slope being corrected by
means of locks. Finally, the discovery of steam-power has
these later times produced means of locomotion that s
destined to replace all others. I refer to the *railroads*, w
are generally laid down in the direction of the great roa
old times.

The natural boundaries of basins having been parti
annulled by roads, canals, and railroads, it was necessary
create artificial obstacles which might supply their plac
time of war; such is the purpose of the *strongholds, fortres
citadels, castles, military posts, entrenched camps,* &c., usu
constructed on the frontiers of state.

Natural boundaries are the best frontiers; th
people the sentiment of its nationality, isolate an
the races composing it, and are the guarantee of it
and independence. We have seen that the best bo
held to be: first, deserts; then seas; next, mountain
lastly, rivers; but these boundaries can rarely su
artificial supports. Few nations have them com
are entirely devoid of them, and this deviation from
physical geography is a constant source of wars.
that strongholds have become the indispensable co
natural boundaries, especially among civilized peo
the state of war is only an accident that cannot st
quency and the facility of communications, and w
sequently, the natural boundary is never insur
Artificial defences, whether permanent or temporary, a
constructed at the outlets and conjunctions of valle
sea-coast, on the banks of rivers, at the spot where r
in fact, wherever the natural obstacle is deficient or in
In order that these large and immovable machines of w
fulfil their object, they should be united with th
defensive system which they support or replace, the

form intercommunications one with the other, be mutually pporting and co-operative, so as to appear, as regards the hole of a frontier, "like the bastions of one and the same ortified enclosure."*

The natural and artificial obstacles are not sufficient of themselves for the defence of a country; the courage of the inhabitants can alone render them insurmountable. Therefore, for s defence, the state creates an *army*, divided into *national litia* and *troops of the line*. The former are usually sedentary unpaid, the latter paid and mobile. The troops of the line ivided into the land army and marine army. The former for its supports and refuges, the strongholds, citadels, latter, the harbours and roads, which are

Mathieu Dumas, v. i., p. 104.

BOOK III.

GENERAL DIVISIONS.

§ I.—GREAT DIVISIONS OF THE SEAS.

THE ocean surrounding the land bears various denominati
Between the New World on the east and the Old W
west, it is called the *Pacific Ocean;* betw
on the west and the Old World on the
Atlantic Ocean. These two great seas ar
the polar circles, and there take the names
and the *Antarctic Ocean.*

But the great bulk of all the land is colle
arctic pole to such a degree, that the south
contains four times as much sea as the northe
for this reason the name *Southern Ocean* is give
of seas lying between the antarctic polar circ
southern extremities of the continents (Cape Ho
Good Hope, Tasmania). Moreover, as the concent
land towards the arctic pole is greatest in the old
name of *Indian Ocean* is given to that part of the Sou
which bathes the southern portions of that contine
Africa, Asia, and Oceania (or Australasia).

Thus the flowing waters of the terrestrial surfac
great recipients:

1. *The Pacific Ocean*, which encroaches on the N
in the Sea of Kamtchatka, or Behring's Sea, and t
California and *Panama*, and on the Old World in
Okhotsk, or *Kurile Sea*, the *Sea of Japan*, the *Yello*
China Sea; and among the numerous islands that
Indian Ocean from the Southern Ocean, it forms the
the *Gulf of Carpentaria*, and the *Coral Sea.*

2. The *Arctic Ocean*, which encroaches on the O
in the *White Sea*, and on the New World in the *Polar*

3. The *Atlantic Ocean*, which encroaches on the Old World the *Baltic Sea*, the *North Sea*, the *Bay of Biscay*, the *Mediterranean Sea*, with the *Archipelago* and the *Black Sea*, the *Gulf of Guinea;* and in the New World in *Baffin's Bay*, *Hudson's Bay*, the *Gulf of Mexico*, and the *Caribbean Sea*.

4. The *Indian Ocean*, which encroaches on the Old World the *Red Sea*, the *Arabian Sea*, the *Persian Gulf*, and the *Bay Bengal*.

The Pacific Ocean is connected with the Arctic Ocean Behring's Straits; with the Indian Ocean by the numerous ts of the Sunda Islands and Australia; with the Antarctic n by the Southern Ocean; with the Atlantic Ocean by the hern Ocean and the Straits of Magellan.

The Atlantic Ocean is connected with the Arctic Ocean by Sea of Iceland; with the Antarctic Ocean by the Southern n.; with the Pacific Ocean by the Southern Ocean and the ts of Magellan; and with the Indian Ocean by that part of outhern Ocean that lies south of the Cape of Good Hope.

S II.—GREAT DIVISIONS OF THE LAND.

World consists of a vast collection of lands very irre-ed, and lying very much towards the North Pole. naturally into two peninsulas, joined by the *Isthmus* e smaller towards the S.W., called *Africa;* the ds the N.E. and N.W., which has been divided by o—to the west, *Europe;* to the east, *Asia*.

Old World is divided into—Europe on the N.W., he S.W., Asia on the N.E., and the S.E. is occupied rge islands, amongst which Australia holds the first which altogether are called *Oceania* (or Australasia). heral line of the water-parting of this continent runs ised manner from N.E. to S.W. from the East Cape pe of Good Hope, passing over the Isthmus of Suez. ers run into the four great recipients of the globe.*

ivision of the N.W. and N.E. part of the Old World into Europe s not altogether conventional; there is a physical reason for it, follows:—

e of the water-parting of this great peninsula, after traversing the f Suez, passes by a series of elevations extending the mountain

The New World is composed of two vast masses of land of triangular form, united by the Isthmus of Panama; they called *North America* and *South America*.

The general line of the water-parting runs from north to south, from the Prince of Wales's Cape to Cape Horn.

Its rivers have three great recipients; the Pacific, the Atlantic, and the Arctic Ocean.

The nearest points of the two worlds are at Behring's Stra betwixt East Cape and Prince of Wales's Cape.

Superficial extent of the Old World, 31,000,000 square mi population, 670,000,000. Superficial extent of the New W 14,000,000 square miles; population, 50,000,000. Super extent of Oceania, 4,000,000 square miles; popula 20,000,000.

mass of Ararat, and the sources of the Euphrates and the Aras. Th bifurcates; its two branches, which stretch, one to the north, the ot the south, embrace an immense plateau; then, these two branches l coalesced about the sources of the Saghalien (or Amur), it forms a single ridge, terminating at East Cape.

From the central plateau formed by this double line of water-p four secondary ridge sproceed, which, while furnishing the pen four distinct watersheds or slopes, directed towards the four or towards the four great divisions of the seas, give it the cated quadrangular pyramid. The first of these ridges water-parting, and stretches from the mountain mass of Isthmus of Suez. The second runs from the sources of the and the Yang-tse-Kiang, and terminates at Cape Romania. longs to the general water-parting, and goes from the source lien (or Amur) to East Cape. The fourth runs from the j plateau of Valdaï with the hills of Chemokonski, divides th and Onega, and ends at Cape Onega.

These four ridges divide the peninsula into four watersh the southern, or that of the Indian Ocean; the eastern, or that the northern, or that of the Arctic Ocean; the western, or Atlantic. The first three very nearly make up Asia. The las tends from the Isthmus of Suez to Cape Onega, is composed unequal peninsulas, one to the south, the other to the north. south is *Asia Minor*, which completes Asia, forming its wate to the north is *Europe*, with the addition of a portion of the nor shed of Asia. In making the European peninsula a distinct part World, its eastern limit was not fixed at its isthmic chain, but trarily pushed back at the expense of Asia, and that in such a irrational manner, that geographers are not agreed on its exact the Russian empire, which is situated in both continents, pays n to their fictitious separation into Europe and Asia. We shall d conventional limit (page 44).

§ III.—HISTORY OF GEOGRAPHY.

The earth, which is now explored in almost every part, was not as perfectly known to the ancients. In the earliest times each people believed themselves to be at the centre of the earth, which they imagined to have the form of a large disc, bounded on all sides by an inaccessible ocean, the vault of the firmament being supported by enormous mountains. Such is the general idea of the geography of Homer, which was that of his own and subsequent ages. The earth was a circle surrounded by the river Ocean; there was no sea besides the Mediterranean, which separated the three parts of the world, afterwards called Europe, Asia, and Africa. Greece occupied the centre of the disc, which extended northwards beyond the Danube, westwards to the strait of Gades, eastwards beyond Asia Minor, southwards as far as the [illegible]frica. Greece, Asia Minor, Egypt, and Italy were the only parts at all well known.

In the time of Herodotus, the river Ocean was no longer believed in. Europe was enlarged as far as the Borysthenes and Asia, as far as the Caspian Sea, the Indus, and Arabia; Africa as far as Ethiopia, &c. Soon afterwards the Carthaginians passed the Pillars of Hercules and sailed out upon the Great Ocean. They discovered to the south the Fortunate Islands, to the north the British Islands. The expedition of the Ten Thousand, the invasion of Alexander revealed the geography of the interior of Asia. Aristotle suspected the rotundity of the earth, and the possibility of reaching India by sailing west from Europe, a bold guess, which eighteen centuries later led to the discovery of America. Eudoxus of Cnidus asserted that the earth was spherical, and this opinion was speedily shared by all the educated men of Greece.

Three centuries later came Strabo, who summed up all the geographical knowledge of the ancients in the first century of the Christian era. He had but an imperfect knowledge of the relative disposition of the countries; but his chart of the world extended westwards as far as the Atlantic ocean, from the Cassiterides Islands to Hibernia; northwards, as far as the Elbe, the Borysthenes, the Tanais, the Caspian Sea, and the unknown regions of the Scythians; eastwards, to the Ganges and to

Taprobane (Ceylon); southwards, to the Persian Gulf; t
Arabian Sea, the deserts of Lybia, and the chain of Atlas.
believed the three parts of the world to be surrounded by a gr
sea.

The wars of the Romans increased the geographical know-
ledge of almost all the ancient world. The north of Europe
began to emerge from its darkness; the Danube and the Elb
were explored; a glimpse was obtained of the Oder, the Vi
tula, the Baltic Sea, even of the Cimbrian Chersonesus a
Scandinavia, which were taken for islands; the Germanic
Sarmatian countries were both known, as also the Br
Islands.

Towards the middle of the second century, Ptolemy wr
treatise on all the geographical knowledge of his time.
introduced mathematical precision into his chart of the wo
and corrected almost all the forms and positions of th
He gave a greater extent to Africa by leaving
southern boundary; he did the same for the no
Asia; his knowledge in that direction extended
Jaxartes and the Ganges; he had a notion of the
sonesus, and of the whereabouts of Siam and China

The invasions of the Barbarians threw some
countries whence these people came; but as the
names to the countries where they settled, muc
was introduced into the geography of Europe in
ages.

Then the Arabs communicated some informatio
Asia and Northern Africa; they went to Thibet,
East India Islands; they propagated their religio
the Niger. The expeditions of the Normans advanc
graphy of the North of Europe; Prussia, Scandinavi
Russia emerged from obscurity; Iceland was known;
even was discovered; but this point of the New Worl
almost as soon as found. The revolutions of Asia bro
the historical scene new peoples, who communicated in
respecting the centre of this part of the world; the
them were the Turks and the Mongols, from whom w
exact details respecting Tartary, Siberia, Thibet, Ch
The crusades excited a passion for travel; missionar

sent in all directions, especially into Central Asia; and they published accounts that threw great light on many peoples hitherto unknown. The most interesting of these narratives is that of Marco Polo, a Venetian, who travelled for twenty years in Asia, and visited China in 1271. He is the creator of the modern geography of Asia.

The spirit of commerce was soon added to that of proselytism to increase the number of travellers. For three centuries the Venetians and Genoese carried on the trade with India overland: the Portuguese sought a way by sea to this rich region; and then began the series of great geographical discoveries. Cape Nun had been the extreme limit of navigation by the ancients in the Atlantic Ocean. Under the inspiration of Prince Henry of Portugal, who indicated the course they should pursue, the ships of Lisbon passed this cape in 1412, discovered the Canary Islands in 1417; doubled Cape Bojador in 1433, discovered the Azores in 1439, and Senegal in 1445; reached Cape Verd and the Islands of that name in 1456. The way was opened: in 1472 the equinoctial line was passed; in 1484, Zaire and Congo were discovered; in 1486, Bartholomew Diaz saw the famous Cape of Good Hope; but for eleven years none dared to double it.

Whilst Portugal thus opened up to its commerce an era of unequalled prosperity, a man was about to endow Spain with a whole world. Christopher Columbus saw in the west the way to India, which the Portuguese were seeking in the south. He based his theory, first, on the proposition that the eastern part of Asia known to the ancients could not be separated from the Azores by more than a third of the circumference of the earth; then, on the other proposition, that the intermediate space must be partly occupied by the still unknown portion of Asia; and, lastly, on the proposition that the circumference of the earth was less than was generally supposed, and that therefore by sailing towards the west, the coast of Asia should be reached at less than 2,500 miles distance. Full of faith in these happy errors, he boldly launched out on the unknown depths of the Atlantic, and propelled by the trade-winds, he discovered on the 12th of October, 1492, Guanahani (San Salvador), one of the Bahama Islands, which he imagined to be one of the islands of Japan;

the following year he explored all the Antilles, and six years later he touched the continent near the mouths of the Orinoco. Finally it was found that this Western India which it was believed had been discovered, was a whole world interposed between Western Europe and Eastern Asia, and that these two portions of the earth which were supposed to be very close together, were separated by a whole hemisphere.

The Portuguese, however, did not relax their efforts, and in 1497, Vasco de Gama passed the Cape of Good Hope, and at length opened up the way to India. All the coasts of the Arabian Sea and of the Bay of Bengal were explored in a hundred and forty years; Madagascar was discovered, the Red Sea entered, Ceylon taken possession of. The impulse was given—all men of courage and love of adventure threw themselves on the sea as on a booty; in 1509 Malacca was discovered; in 1510, the Sunda islands; in 1511, Siam; in 1512, the Molucca islands; in 1516, China; in 1542, Japan.

Equally rapid progress was made in the west. The coast of North America was explored by the two Cabots, who discovered Labrador, Hudson's Bay, and New England in 1498; the Gulf of Mexico and Brazil was known in 1500; Nuñez Balboa saw the Pacific Ocean in 1513 from the high ground of the Isthmus of Panama; a search was begun for a passage to India by the south-west; Magellan discovered it in 1520, sailed into the Pacific, and returned to Europe by the Cape of Good Hope; this was the first voyage round the world. Mexico and Peru were conquered, the former in 1521, the latter in 1534. Canada was discovered in 1525, California in 1535, Chili in 1536, the Mississippi in 1543; Greenland was rediscovered in 1607; Hudson's Bay was discovered in 1610, and a search was commenced through the seas of the Arctic Pole for a north-west passage, which has only been found in our times, and is apparently of no use.

By this time almost the whole world was known, and mere gleanings were henceforth only to be had in the field of discovery. The English discovered Nova-Zembla; the Dutch, Spitzbergen; the Russians, Kamtchatka; it was 1722 before Behring's Strait was discovered. Australia, which had already been seen by the Portuguese, was explored on its western and northern

coasts by the Dutch, between 1605 and 1644; the remaining coasts were not visited before the end of the eighteenth century. The discoveries of the navigators of that period, Bougainville, Cook, Vancouver, Lapeyrouse, were chiefly made in the Pacific; by them were explored the north-east coast of Asia and the north-west coast of America, and the numerous archipelagos of that sea, which at the present day are almost thoroughly known. Finally, the most interesting voyages and travels that have been made in the present century have had for their object to find a sea passage in the Arctic regions north of the American continent, to discover the isolated portions of other continents towards the Antarctic Pole, and to explore the interior of Africa, some parts of which begin to be known.

BOOK IV.

EUROPE.

CHAPTER I.

GENERALITIES.

EUROPE is a peninsula bounded on the north by the Arctic Ocean, on the west by the Atlantic Ocean, on the south by the Mediterranean, on the east by the Archipelago, the Black Sea, and a conventional line,* which runs along the crest of the Caucasian hills to the Caspian Sea, then by the river Oural and the chain of the Oural mountains to Cape Waigatz.

Lying betwixt N. lat. 36° 0′ 40″ and 71° 10′, and W. long. 10° 20′, and E. long 62° 50′ (Meridian of Greenwich), it extends from Cape Waigatz to Cape Tarifa, in a direction from N.E. to S.W., narrowing continually as it approaches the S.W. A line drawn from Cape St. Vincent to the Oural Mountains, near Ekaterinburg, is 3,293 miles in length, and a line drawn from Cape Matapan to North Cape, 2,386 miles. The extent of the sea boundary is 14,118 miles; that of the continental boundary, 2,429; superficial extent, 3,775,400 square miles. Population, 270,000,000 inhabitants.

Its running waters have two principal recipients, the Atlantic Ocean and the Mediterranean Sea; and two secondary recipients, the Arctic Ocean and the Caspian Sea.

§ I.—DESCRIPTION OF THE SEAS.

1. **Arctic Ocean.**—The part of this ocean which bathes the shores of Europe, does not usually contain extensive ice-fields in consequence of its being in constant motion. The principal

* See note at p. 37.

gulf formed by it, the *White Sea*, abounding in islands and reefs, freezes readily; it is kept in motion by a strong current running from north to south, and is liable to violent storms. Its borders are low, and consist either of steep rocks or peat-marshes. Superficies, 40,195 square miles.—Three rivers run into it: the Petchora, the Mezen, the Dwina.

2. **Norwegian Sea.**—Studded with large islands, apparently detached from the coast, indented by numerous bays, fringed by enormous rocks, this part of the Atlantic is but little frequented. As the chain that traverses the Scandinavian peninsula runs close to the coast, this sea receives no rivers.

3. **North Sea, or German Ocean** (Oceanus Germanicus). — It lies between the Scandinavian and Danish peninsulas on the east, the European continent on the south, the British Islands on the west, and communicates with the Atlantic Ocean; on the north by the Norwegian Sea, on the south by the straits of Dover. It abounds in dangerous shoals; its eastern coasts bristling with rocks resist the violence of its waters, which are pushed back by the currents from the Pole and the Baltic; but its southern coasts, formed of low sandy plains, are exposed to great inroads of the sea, and are only preserved by means of enormous dykes. The gulf of *Zuyderzee* was formerly a lake which the sea burst into in the thirteenth century.—Superficies, 275,068 square miles.—It receives from the continent three rivers: the Elbe, the Weser, and the Rhine.—About the middle of its eastern wall it opens to form the Baltic Sea.

4. **Baltic Sea** (Mare Sarmaticum).—This Mediterranean of the north is entered by an elbowed strait, called *Codan* (Codanus Sinus); the northern part of this strait is called *Skager-Rak*, it is 193 miles long and 68 broad; the southern part is the *Cattegat*, 137 miles long and 65 broad. These two deep and dangerous arms of the sea separate the Scandinavian and Danish peninsulas. Their superficies is 20,077 square miles. The latter contains a considerable group of islands called the *Danish Archipelago*, among which there are three straits—the *Sound* on the east, the *Great Belt* in the middle, and the *Little Belt* on the west. The second is the most frequented; it is 68 miles long, and from 2 to 15 broad. By these straits we enter the basin of the Baltic, which forms on the south the *Gulfs of Dantzic* and

Riga, and towards the north divides into two great branches: 1, the *Gulf of Bothnia* on the north, between which and the Norwegian sea lies the Scandinavian peninsula; 2, the *Gulf of Finland* on the N.E., between which and the Gulf of Bothnia is the peninsula of Finland. The basin of this sea is in its southern part surrounded by sandy plains or low cliffs, and in its northern part by a girdle of rocks and reefs. Its waters are not deep (from 10 to 100 fathoms), abounding in sand-banks, but slightly saline, and often covered with ice. The melting of the snow produces a current that runs with considerable force into the Atlantic. Superficies; 137,612 square miles.

It receives four principal rivers: the Duna, the Niemen, the Vistula, and the Oder.

5. **English Channel** (Oceanus Britannicus).—The *Strait of Dover* (fretum Gallicum), 21 miles wide between Cape Grinez and the South Foreland, forms the entrance into this narrow arm of the sea; it is not deep, but is exposed to all the movements of the Atlantic; it separates the British Islands from the Continent. The tide rises there to the height of 55 feet. Its coasts are generally high and fringed with cliffs, but the insular coast is more regularly elevated than the continental coast, where low sandy shores are frequent. Superficies, 31,275 square miles. It receives the river Seine.

6. **Bay of Biscay** (Mare Cantabricum).—Its coasts form a right angle; they are but little indented, and subject to violent tempests. Superficies, 77,068 square miles. It receives the Loire and the Garonne.

7. **Sea of Portugal.**—Its coasts, almost devoid of indentations, are the most western coasts of Europe, and present nothing particularly worthy of notice. It receives the Douro, the Tagus, the Guadiana, the Guadalquivir.

8. **Mediterranean Sea** (Mare Internum).—The *Strait of Gibraltar* (fretum Herculeum) forms the entrance to this great series of internal seas, the most interesting in the world, and one cause of the civilization and preponderance of Europe. This strait is bounded on the west by Capes *Trafalgar* (Europe) and *Spartel* (Africa); on the east by the *Points of Europe* and *Africa*, which are the *Pillars of Hercules*, of the ancients, or Mounts *Calpe* and *Abyla*. The narrowest part of the strait (12

miles) is between these two points. The Mediterranean is bounded on the north by Europe; on the south by Africa; on the east by Asia. According to ancient traditions it was formerly a lake, which gained a communication with the ocean by means of the physical revolution, that formed the strait of Gibraltar; traces of this old tradition are preserved in the fable of Hercules cutting through the hills which closed the strait.

Its first basin, called the *Lower Mediterranean*, lies between Africa and the Spanish and Italian Peninsulas. It contains the Balearic Islands, Corsica, Sardinia, and Sicily. It forms some shallow gulfs, the most remarkable of which are those of Lyons and Genoa (sinus Leonis et sinus Ligusticus); it assumes different names, according to the different coasts it washes:—*Balearic Sea* (Mare Balearicum), *Tuscan Sea* (Mare Tuscum), *Sicilian Sea* (Mare Siculum). The strait that divides Sicily from the Italian peninsula (19 miles broad) is called *Strait of Messina*. Superficies, 377,195 square miles. It receives two principal rivers, the Ebro and the Rhône.*

The second basin of the Mediterranean, lying between the Italian and Greek peninsulas, the coast of Asia and that of Africa, contains the islands of Crete and Cyprus, and forms—1. On the south the *Gulfs of Sidra* (Syrtis Major) and of *Khabs* (Syrtis Minor), the only flat and sandy coasts washed by the Mediterranean. Superficies, 186,956 square miles. 2. On the N.W. the *Ionian Sea* (Mare Ionicum), 46 miles in breadth, communicating with the *Adriatic Sea* (Mare Adriaticum), which receives one principal river, the Po. Superficies of these two seas, 134,128 square miles. 3. On the N.E. the *Archipelago* (Mare Ægæum), dotted over with numerous groups of islands, the superficies of which is 63,590 square miles.

The Archipelago, contracting at the head of its basin, gives admission by the *Strait of the Dardanelles* (Hellespontus), from 1 to 5 miles broad, to the little *Sea of Marmara* (Propontis).

* This basin is separated from the next by a chain of shoals, uniting the coast of Africa with Sicily, and known by the name of *Skerki*. These shoals have given the following soundings, going from the African coast: 34, 48, 50, 38, 74, 20, 70, 52, 91, 16, 15, 32, 7, 48, 34, 54, 70, 72, 38, 55, and 13 fathoms. At some parts of the Skerki a depth of from 140 to 200 fathoms is met with.

Superficies, 9,768 square miles. The latter in its turn contracts into the *Channel of Constantinople* (Thracian Bosphorus) ⅓ to 2½ miles broad, to give admission to the *Black Sea* (Pontus Euxinus). This large, almost circular basin, of 181,590 square miles, is very stormy, deep, almost without islands, and receives the Danube, the Dniester, and the Dnieper. It communicates on the north by the *Strait of Yenikale*, or *Caffa* (Cimmerian Bosphorus), with the muddy and shallow waters of the *Sea of Azov* (Palus Mæotis), which receives the Don. Superficies, 20,386 square miles.

The entire superficial area of the Mediterranean is about 965,290 square miles. The waters are salt and deep; there is hardly any tide in it. There are in it several currents contrary to the general direction of its waters from east to west, caused by the reaction of its coasts, which are generally much indented and very high. It is the most frequented sea in the world, especially during the present century.

9. **Caspian Sea** (Mare Caspium). — The mistake of the ancients who believed that this lake communicated with the Northern Ocean, caused the Caspian to be called a sea. It is the largest lake in the world, and at the same time its surface is below the level of the ocean. It is 126,646 square miles in superficial extent, 746 miles long, and 404 in its greatest breadth; its level is 84 feet below that of the Black Sea. The Caspian has no tides; its water is slightly salt; it is shallow, stormy, of difficult navigation, and has but few indifferent ports. It receives the Volga, the Oural, the Terek, and the Aras.

§ II.—DESCRIPTION OF THE LANDS.

The general line of the water-parting of Europe runs from S.W. to N.E. The western slope is diverted towards the Atlantic Ocean, its eastern towards the Mediterranean. The junction of these two recipients is effected by the Strait of Gibraltar. As the boundaries of Europe, considered politically, are not, as we have seen, those of the European Peninsula, it follows that there is, besides, a secondary northern slope, whose waters run into the Arctic Ocean, and a secondary southern slope pouring its waters into the Caspian Sea.

This line of water-parting, very tortuous and confused, formed in the south by high mountains, in the north by low hills, begins at Cape Tarifa in the Strait of Gibraltar, and ends at Cape Waigatz in the Kara Sea. It throws out numerous ramifications to the right and left, and is formed, proceeding from the greatest contraction in the European peninsula, of—

1. **The Pyrenees**, a system of mountains which forms the framework of all the Spanish peninsula from Cape Tarifa to the Pic de Corlitte (sources of the Ariége, Aude, and Sègre). Their western watershed contains the four basins of the Guadalquivir, the Guadiana, the Tagus, and the Duero; their eastern watershed, that of the Ebro.

2. **The Gallic Alps**, the western appendix of the great system of the Alps, from the Pic de Corlitte to Mont St. Gothard. Their western watershed contains the four basins of the Garonne, the Loire, the Seine, and the Rhine; their eastern watershed, that of the Rhone.

3. **The Central Alps**, the nucleus of the great system of the Alps, from *Mont St. Gothard* (sources of the Rhine, Rhône, and Tessin) to *Mont Maloya* (sources of the Rhine, Inn, and tributaries of the Adda). Their slopes send waters in all directions for the most important rivers of Europe—the Rhine, the Rhône, the Danube, and the Po.

In addition to the western appendix, or Gallic Alps, of which we have just spoken, and the eastern appendix, or German Alps, of which we shall presently speak, the Central Alps give off an appendix to the S.W., the chief group of which is the Apennines forming the Italian peninsula; and an appendix to the S.E., that forms the Hellenic peninsula, and has the *Balkan* as a prolongation. The basins of these two appendices are directed towards the Mediterranean.

4. **The German Alps**, the eastern appendix of the great system of the Alps, from Mont Maloya to *Mont Sloiczek* (sources of a tributary of the Dniester and a tributary of the Vistula). Their western watershed includes the basins of the Weser, the Elbe, the Oder, and the Vistula; their eastern watershed that of the Danube. From Mont Sloiczek to the Black Sea, they have a considerable prolongation to the S.E., called the *Carpathian Mountains.*

As far as Mont Sloiczek, the water-parting of Europe is mainly formed by mountains of considerable size; but from this point onwards, southern Europe and its system of mountains ceases. Up to Cape Waigatz the water-parting is formed by scarcely perceptible elevations; and northern Europe seems to be one vast plain.

5. **The Hills of Poland,** the junction of southern and northern Europe. Their western watershed forms the basins of the Niemen and Duna; their eastern watershed those of the Duiester and Dnieper.

6. **The Heights of Valdai and Chemokonski,** an advanced terrace of the Asiatic mountains. Their western watershed forms the basins of the Narva, Neva, and Dwina; their eastern watershed, those of the Don and Volga.

An appendix runs from them at the N.W., and goes to form the *Dovrefield Mountains*, which compose the Scandinavian peninsula.

7. **The Poyas Hills,** the natural division of the north of Europe and Asia, terminating at Cape Waigatz. Their western slope forms the basins of the Mezen and Petchora. The *Oural Mountains* form their southern prolongation, the western watershed of which forms the basin of the Volga. The Poyas and Oural Mountains belong more to Asia than to Europe.

To this long series of heights may be added the chain of the *Caucasus*, which is completely isolated from them, but which acts as the water-parting between the Black Sea and the Caspian.*

Such is the ensemble of the heights which constitute the principal framework of Europe, and which may be divided into one great and two small systems:—

1. The Pyrenees, whose appendices occupy one region only, and which are united with the next system.

2. The Alps, the largest and best marked in Europe, whose central nucleus throws out four considerable chains: 1. To the N.W., the Gallic Alps; 2, to the S.W., the Italian Alps; 3, to the S.E., the Hellenic Alps; 4, to the N.E., the German Alps.

* For the details of the general water-parting of Europe, the reader is referred to each of the physical regions of which it forms the framework.

3. The Dovrefield Mountains, which occupy a separate region, *and are but indistinctly connected with the preceding system.*

We do not reckon the insular chains, which are only appendices of the continental chains, and we leave to Asia the Poyas and Oural Mountains, as also the chain of the Caucasus.

Thus southern Europe is perfectly distinct from northern Europe: the former presents a series of very elevated lands, covered with natural obstacles, varied with cuttings and declivities, bristling with peaks, scalloped with gulfs, furrowed by numerous rivers, cut up into peninsulas, arresting the northern winds, opening out to the winds of Africa freshened by the Mediterranean; the latter presents the appearance of a large, low terrace, broken only by the Dovrefield Mountains, covered with naked plains and large lakes, exposed to the freezing influences of Asia and the Arctic Ocean. The natural accidents of the south, besides being favourable to agriculture and commerce, assure the independence and civilization of their inhabitants; whilst the vast frozen plains of the north have only miserable and savage populations, brutalized under a single government. South and north both have their coasts indented by deep gulfs, both possess a Mediterranean; but the admirable situation of the southern one, a vast lake interposed betwixt the three continents of the Old World, gives immense advantages to southern Europe; it is through it that for four thousand years Europe has been the seat of civilization and the metropolis of the human race.

Europe is the most magnificent testimony to the greatness of man. This foggy, cold, marshy corner of the earth, the humble appendix of the vast Asiatic continent, has nothing imposing to offer in the way of vegetables or animals, or even in the physical accidents of its soil; it possesses neither the external magnificence nor the internal riches of other parts of the world; hardly anything but iron and coal are found in its bosom; its surface was formerly covered with forests; the sole thing that has been in its favour is its geographical position. Though nature has thus neglected Europe, the genius of man has made it what it is. He has enriched it with wealth of all descriptions, borrowed or ravished from other quarters of the globe: he has embanked its rivers, levelled its mountains, drained its morasses, opened up

its soil to the rays of the sun and the breath of the winds; he has subjugated its waters, purified its atmosphere, created its climate; in fine, he has made it the most habitable part of the world, where human life is least exposed to those scourges that commit ravages elsewhere, where savage beasts and poisonous herbs are fewest, where volcanoes, earthquakes, and hurricanes are least formidable, where pestilence and famine are rarest; where in short, man can most gloriously employ the creative faculties with which God has endowed him.

By means of the exterior divisions indicated by the seas and the interior divisions indicated by the mountains and rivers, continental Europe may be divided into seven natural regions: 1, *Spanish region;* 2, *French region;* 3, *Germanic or central region;* 4, *Italian region;* 5, *Greek region;* 6, *Russian region;* 7, *Scandinavian region.* In addition to these seven continental regions is an insular region formed by the *British Isles.*

§ III.—HISTORY OF THE GEOGRAPHY OF EUROPE.

These eight regions were in ancient times inhabited by six principal families of peoples. In Greece and the south of Italy were the *Pelasgi;* in the north of Italy and the Spanish Peninsula, the *Iberi;* in Gaul and the British Isles, the *Gauls* or *Kelts;* in Germany and Scandinavia, the *Germans,* subdivided into *Kimris, Teutons,* and *Goths;* in Russia, the *Slaves* and *Finns.*

The Greek family, the most civilized of all, extended the influence of its arts and its enlightenment over the neighbouring families; but except the colonies it established in the islands of the Mediterranean, in Italy, and even in Gaul, it effected no change in the political situation of Europe by its arms, and devoted all its efforts at conquest in the direction of Asia, where it founded a great empire.

The Romans, a small colony of Italy, extended their dominion over the populations of the three first families, entered into contact with the fourth, and remained in complete ignorance of the last two. Its empire disarranged all the populations comprised within it, and changed all the geography of southern Europe.

This empire was bounded on the west by the Atlantic Ocean, on the north by the Rhine and the Danube, on the east and the south by the coasts of Europe from the mouths of the Danube

to the Straits of Gibraltar. It included besides the western part of Asia and the northern part of Africa. It was divided into several great provinces: 1, Greece; 2, Italy; 3, Hispania; 4, Gaul; 5, Britain; 6, Rhetia, Vindelicia, Norica, Pannonia, Illyria, on the right bank of the Danube; 7, Mœsia and Thrace on the same right bank.

In the year 364 this empire separated into two empires, the Western and the Eastern. Greece, Mœsia, Thrace, and half of Illyria, formed part of the Eastern empire, which included all the Roman provinces in Asia and the N.E. of Africa; all the remainder, together with the N.W. of Africa, composed the Western empire.

At the time of this separation the Northern races had raised themselves from their quiescent state and overrun the South in quest of new lands. The Germans, the vanguard of these myriads of barbarous people, overthrew all the south of Europe, destroyed the Western empire, and founded new dominions, which altered the whole political constitution of Europe and imposed new geographical names on the conquered countries and peoples. The Visigoths were the conquerors of the Spanish Peninsula; the Franks, of Gaul; the Ostrogoths, and afterwards the Lombards, of Italy; the Angles and Saxons, of Britain; Germany was completely overturned and partially occupied by the Slaves; the Eastern empire retained Greece.

In the year 800, the Franks re-established a Western empire, which they called Roman, and which embraced Gaul, Italy, and Germany, as far as the Oder and the Danube; the invasion of the Barbarians was arrested; the Germans began to be settled and civilized; the Slavonic peoples of Bohemia, Silesia, Croatia, Servia, &c., began to be heard of; small states were formed in Denmark, Norway, Sweden, and Finland; the name of Russia was pronounced. But, whilst the great European family increased in the North, it diminished in the South: the Spanish peninsula, conquered by the Arabs, remained separated from Europe for several centuries; Greece became completely Asiatic.

In the year 843, the Frank empire was destroyed; its three principal populations separated, and formed three great states: France, Italy, and Germany. Modern nations arose, and feudal Europe was established.

Towards the middle of the 11th century, this work was completed; Europe was divided into a vast number of different and isolated dominions, the principal of which were: the kingdoms of Navarre, Leon, and Castille, in the Spanish peninsula; the kingdoms of France, Lorraine, Provence, &c., in Gaul; the kingdoms of Germany, Bohemia, Hungary, Poland, Denmark, Sweden and Norway, the States of the Teutonic order, the Grand Duchies of Lithuania, Kiev, Vladimir, in Germany, Scandinavia and Russia; the kingdom of Italy, the Duchies of Apulia, Calabria, and Sicily, in Italy; the kingdoms of England, Scotland, and Ireland, in the British Isles. The Mahometan kingdoms of Spain and the Greek empire are not included in catholic and feudal Europe.

But these multitudes of states merged into one another; feudality broke up in every direction, and in the sixteenth century, when the rising power of the house of Austria gave the signal for a new political system, Europe exhibited the following constitution:—

1. Greece, fallen under the dominion of the Turks and separated from christianity.

2. Italy, divided into seven principal and independent states: the Principality of Piedmont, the Republic of Genoa, the Duchy of Milan, the Republic of Venice, the Duchy of Florence, the States of the Church, the Kingdom of Naples.

3. The Spanish peninsula, freed from the Arabs, and divided into four states: the kingdoms of Portugal, Leon and Castile, Arragon, and Navarre.

4. Gaul, divided into the Kingdom of France, the Netherlands, the Electorates of Treves, Mayence, and Cologne, the Duchies of Cleves, Juliers, and Deux-Ponts, the Landgravate of Alsace, the Duchy of Lorraine, the Swiss Cantons, the County of Savoy, &c.

5. The central region, formed into: 1, the elective Empire of Germany, with seven electors; the Ecclesiastical electors of Treves, Cologne, and Mayence; the secular electors of Saxony, Bohemia, Brandenburg, and the palatine of the Rhine; 2, the Kingdom of Hungary; 3, the Kingdom of Poland; 4, the Kingdom of Denmark.

6. Russia, divided into the Grand Duchy of Lithuania, the

Grand Duchy of Moscow, the Tartar hordes of the East, the unknown people of the North.

7. Scandinavia, divided into the Kingdoms of Sweden and Norway.

8. The British Isles, divided into the Kingdoms of England, Scotland, and Ireland.

Fighting went on for a century and a half, in order to overthrow the house of Austria, which reigned over Spain, Germany, Italy, and the Netherlands; and the treaty of Westphalia reconstructed Europe on new bases, which were only slightly modified during 140 years; so that in 1789, it presented the following arrangement:—

1. The Hellenic peninsula formed part of the Turkish empire.

2. Italy was divided almost as in the fifteenth century.

3. The Spanish peninsula was divided into two states: the Kingdoms of Spain and Portugal.

4. Gaul was divided into the Kingdom of France, the Austrian Netherlands, part of the United Provinces, the Duchies of Cleves and Juliers, the Electorates of Treves, Cologne, and Mayence, the Duchy of Luxemburg, the Palatinate of the Rhine, the Swiss Cantons, the Duchy of Savoy, the County of Nice, &c.

5. The central region was divided into the Empire of Germany, the Republic of the United Provinces, the kingdoms of Prussia, Denmark, Poland, Hungary, &c.

6. Russia was formed into an empire.

7. Scandinavia was divided into the kingdoms of Sweden and Norway.

8. The British Isles were united into a single dominion.

During the twenty-five years of the wars of the French Revolution, the face of Europe was several times changed. In 1801, France had the natural boundaries of Gaul, except on the side of Switzerland; the north of Italy formed the Italian Republic; the Republic of Venice was destroyed, and Poland had been divided among Prussia, Russia and Austria. In 1802, Piedmont was united to France, Tuscany created into the kingdom of Etruria, the empire of Germany overthrown by the creation of new electorates. In 1806, that empire no longer existed; the empire of Austria was created; the kingdoms of Bavaria, Wur-

temburg, and Saxony sprung into existence, and, together with several other German states, constituted the Confederation of the Rhine; northern Italy was transformed into a kingdom; Dalmatia and Illyria belonged to France. In 1807, Prussia was dismembered, the kingdom of Westphalia created, Poland revived under the name of the Grand Duchy of Warsaw, &c. In 1812, the French empire extended beyond the natural boundaries of Gaul, by the incorporation of the kingdom of Holland, the possession of the coasts of the North Sea as far as the mouth of the Elbe, the annexation of Tuscany and the States of the Church; and it dominated over the Confederation of the Rhine, the Helvetic Republic, the kingdom of Italy, the kingdom of Naples, the kingdoms of Spain and Portugal, &c.

The treaties of 1814 and 1815 reconstructed Europe on new bases.

1. The Hellenic peninsula, formed partly of the Ottoman Empire.

2. Italy was divided into the kingdom of the Two Sicilies, the States of the Church, the Duchy of Tuscany, the Duchy of Modena, the Duchies of Parma and Placentia, the Lombardo-Venetian Kingdom, the Sardinian States, &c.

3. The Spanish peninsula was divided into the kingdoms of Spain and Portugal.

4. Gaul was divided into the kingdom of France, the kingdom of the Netherlands, Rhenish Prussia, Rhenish Bavaria, part of the Sardinian States, &c.

5. Germany was divided into thirty-eight States, forming a Confederation, the principal of which were—Empire of Austria, Kingdoms of Prussia, Bavaria, Wurtemburg, Saxony, Hanover, the Grand-Duchies of Baden, Hesse, Mecklenburg, Oldenburg, &c.*

6. The Russian Empire comprised all the north of Europe.

7. Scandinavia was divided into two kingdoms united under one sovereign.

* Germany now consists of a North German Confederation, composed of all the States north of the Main except Luxemburg; and the States south of that river, viz.: Bavaria, Wurtemburg, and Baden, have by treaty surrendered their military power to the North German Confederation. Austria is excluded from Germany.

8. The British Isles formed the United Kingdom of Great Britain and Ireland.

Since 1815, the following modifications have been introduced into the political constitution of Europe: the southern part of the Hellenic peninsula has become independent under the name of the kingdom of Greece; the kingdom of the Netherlands has been divided into two States—the kingdom of Belgium and the kingdom of Holland; France has been aggrandized by Savoy and the county of Nice; a kingdom of Italy has been formed, composed of the Sardinian States, Lombardy, the Duchies of Parma and Modena, almost all the Pontifical States, the kingdom of the Two Sicilies, and Venetia.

These eight principal regions exhibit their different origin by the manners and languages of the inhabitants.

1. The Hellenic peninsula (leaving out of consideration the Turks, who are only a camp of barbarians located in European soil) is almost entirely peopled by the Pelasgic or Slavonic race, and their language is derived from the ancient Greek.

2. The greater part of the population of Italy is of ancient race, with a mixture in the north of German, and in the south of Arabic elements. The language is derived from the Latin.

3. The Spanish peninsula is mostly peopled by an ancient race, mingled with Romans, Visigoths, and Arabs. The language is derived from the Latin. There are pure remains of the ancient Iberian race and language in the Pyrenees.

4. The greater part of the inhabitants of Gaul is of ancient race, with a mixture of Roman and German elements. The language is derived from the Latin. There are pure remains of the ancient Celtic race and language in Brittany.

5. Two-thirds of the population of Germany are Teutonic, the remaining third Slavonic. It has retained its ancient languages almost intact.

6. The population of Russia is almost all Slavonic or Finnish, and it has retained its ancient languages.

7. Scandinavia has a population almost entirely Teutonic, and its language is derived from the ancient language.

8. One-half of the population of the British Isles is of the ancient race; the other half is German, with Roman elements. The language is chiefly derived from the Teutonic,

with Latin or French elements. Pure remains of the ancient Celtic race and language are found in Wales, Ireland, and the north of Scotland.

Finally, Europe contains a small number of inhabitants belonging to the Turkish, Tartar, Jewish, &c., races.

To resume: three great families divide Europe among them. —1. The Celtic, or Latin, in the south, divided into Italian, Spanish, and French, and numbering 80 millions. 2. The Teutonic, in the centre and west, divided into German, Scandinavian, British, and amounting to 80 millions. 3. The Slavonic, in the north and east, divided into Russian, Polish, Illyrian, and amounting to 78 millions. The Finns, Turks, Roumans, Jews, &c., amount to 24 millions.

Christianity is the religion of all Europe, except a portion of Greece, where Mahometanism prevails, several northern deserts, where idolatry is practised, and some corners where the Jews are disseminated. The Catholics occupy the southern parts, and are 145 millions in number; the Greeks occupy the eastern parts, and are 60 millions in number; the Protestants occupy the northern parts, and are 58 millions in number; the Mahometans, Jews, and idolaters amount to 9 millions.

The total population of Europe amounts to about 272 millions of inhabitants. Of this number the various States keep three-and-a-half millions of men constantly armed, the expense of maintaining whom absorbs two-fifths of their total revenue.

CHAPTER II.

SPANISH REGION.

§ 1.—GENERAL IDEAS.

This region called by the ancients *Hesperia*, *Iberia*, *Hispania*, is the most western part of Europe. It lies between N. lat. 30° 0′ 30″ at Cape Tarifa, and 43° 46′ 40″ at Cape Ortegal, and E. long. 1° 19′ 37″ at Cape Creus, and W. long. 9° 30′ at Cape Rocca. It forms a sort of compact square between the Atlantic and Mediterranean, only united to the continent by the

isthmus formed by the chain of the Pyrenees, from Cape Creus to the point of Figuier, and separated from Africa by the narrow strait of Gibraltar. Length of the sea coast, 1,616 miles; length of the continental boundary, 224 miles. Superficies, 218,185 square miles. Length of the diagonal drawn from Cape St. Vincent to Cape Creus, 621 miles.

At first sight this peninsula looks like a vast promontory, the centre of which is a large plateau from 1,300 to 1,650 feet high, the flanks of which, to the east and west, are studded with groups and chains rising in long steps from the borders of both seas to the centre of the peninsula, and the fronts of which, to north and south, are two enormous walls of unequal height, rising almost abruptly above the two seas—the Pyrenees above the Atlantic, the Sierra Nevada above the Mediterranean.

Notwithstanding the great disadvantages resulting from this singular configuration, that is to say, notwithstanding the aridity of the soil in the centre of the peninsula, the general deficiency of water, and the differences of temperature in localities in the same latitude, this region is nevertheless one of those most favoured by nature in climate and soil, it being more like Africa than Europe in these respects, in the great length of its coasts, in its advanced position between two seas, the communication between which it possesses, in its almost complete isolation, in its system of mountains and rivers, which are to it at once barriers and passages; finally, in the variety of its climate and the abundance of its produce.

The line of its water-parting runs generally from S.W. to N.E., describing an S-shaped, tortuous curve. It commences at Cape Tarifa, follows the Sierra Nevada from west to east, turns towards the north, traverses the central plateau describing the arc of a circle the concavity of which is towards the Atlantic, strikes the Pyrenees about the middle of the chain at the source of the Ebro, and follows them from west to east to the point of junction of the *Corbières* ranges. This line is far from being distinct and continuous; with the exception of the well-marked directions of the Sierra Nevada and the Pyrenees, it is only a confusion of groups, the connection among which is uncertain, and of plateaus where the scanty supply of water seems uncertain what course to take.

It forms four very unequal watersheds, those of the south and east inclined towards the Mediterranean, those of the north and west towards the Atlantic. The eastern and western watersheds are connected with the central plateau, whose sloping sides they seem to be; the two others, which occupy but a narrow border, seem to form its ramparts.

On these four inclined planes the general characters of the soil are as follows:—Proceeding from the coasts, low plains, forming the base of the amphitheatre, of great fertility and mild temperature, with an active and intelligent population; thence we rise gradually to valleys growing rice, maize, and olives, and to small hills, where vines and corn are cultivated; we then come to the elevated plateaus of the central region, where we find the *parameras* and *muelas*, vast and barren plains, without water or trees, and almost uninhabited, counterparts of the deserts of Africa, and these plateaus are themselves crowned by *sierras*, serrated mountain chains, covered with snow. Thus concentric circles of fertility and population are described from the seaboard upwards, diminishing as we ascend, until at the centre there is nought but sterility and solitude.

We have here a chaos of mountains, where at every step we meet with deep glens, crevices, and defiles, which three hundred men could defend against a whole army; barren plains, whose uniformity is broken by nothing living but broom and heath; treeless slopes, whereon no clouds gather, where the rains fall on the bare rocks, and give rise to nothing but torrents; ravines, impracticable in winter on account of their waters, and in summer on account of their steepness; brooks, enclosed in a border of verdure, along whose course are found the cultivated lands and hamlets; rivers, with scraggy banks and rarely filled with water, abounding in bars and falls, where navigation is almost impossible, with dangerous fords and few bridges; few roads, and these mostly through mountain passes or quagmires; isolated towns, built on heights or huddled within walls; half-savage villages, very sparcely distributed; inhabitants proud, sober, brave, and fierce. These characteristics render this country very suitable for defensive war, and almost impossible to be conquered; in the words of Marshal Suchet, "a large body, deficient in stoutness, but abounding in nerves and muscles."

§ II.—HISTORY OF THE GEOGRAPHY OF THE SPANISH PENINSULA.

The *Iberi* seem to have been the most ancient inhabitants of the Peninsula. The Phœnicians founded colonies and commercial stations there, which were inherited by the Carthagenians, who ultimately obtained possession of all the country on the south side of the Ebro, whence they drew immense resources both of gold and of soldiers. The Romans disputed the possession of this rich country with their rivals; but Carthage had the skill to induce the inhabitants to espouse their quarrel, and when she fell, the strife continued for two centuries, during which time Rome wore out her best armies, but ultimately proved the victor. The laws, language, and customs of the conquerors were thereupon introduced into Hispania, and the country was divided into three parts: *Lusitania* on the west, *Bætica* on the south, *Tarraconensis* on the east and north.

On the irruption of the Barbarians, it was the Vandals who first penetrated into the Peninsula; but they soon quitted it, leaving no trace of their presence save in the name of *Vandalucia* (Andalusia), which they gave to Bætica. The Visigoths followed them and founded a great monarchy, which lasted till the eighth century. At that period the Arabs, followers of Mahomet and conquerors of Africa, passed the Strait, entered the Peninsula, overthrew the dominion of the Visigoths, and founded the caliphate of Cordova, which made itself independent of that of Bagdad, and which ultimately separated into several Mahometan kingdoms. However the Christians, who were unwilling to submit to the conquerors, retired towards the Atlantic Pyrenees, and founded the small kingdoms of Asturias and Leon. A religious strife now commenced betwixt the old and new possessors, which lasted five centuries, in the course of which the Arabs lost their conquests one after the other. The Christian kingdoms of Navarre, Arragon, Castile, Valencia, Murcia, Seville, Cordova, &c., were established. These gradually merged into one another, and at the end of the fifteenth century, there remained but four: Portugal on the west, Navarre on the north-west, Arragon on the north and east, Castile on the south and west. The little kingdom of Granada on the south alone remained to

the Mahometans. Ferdinand the Catholic, king of Arragon, by his marriage with Isabella, queen of Castile, united these two kingdoms under one crown; he then conquered Granada, usurped Navarre, and the Peninsula thus became divided into two states, which still exist: 1. The kingdom of Spain, divided into thirteen provinces or kingdoms: on the north, *Galicia*, *Asturias*, *Biscay*, *Navarre*, *Arragon*; on the east, *Catalonia*, *Valencia*, *Murcia*; on the south, *Andalusia*; on the west, *Estremadura* and *Leon*; in the centre, *Old Castile* and *New Castile*. 2. The kingdom of Portugal, divided into six provinces: on the north, *Entre-Douro-e-Minho*, *Tras-os-Montes*; in the centre, *Beira* and *Estremadura*; on the south, *Alemtejo* and *Algarves*.

Spain.—Charles V., heir to the houses of Austria and Burgundy, succeeded Ferdinand and Isabella. Spain, which had extended its power abroad by the discovery of America and its settlements in Asia and Africa, was at that time the mistress of Europe. But this purely fictitious greatness ruined the country, which exhausted her men and money in the interest of her kings, lost her ancient liberties, and neglected all her natural sources of wealth. The house of Austria became extinct in the beginning of the eighteenth century, and was succeeded by the house of Bourbon. But at that time Spain, despoiled of her possessions in the Low Countries and Italy, had fallen into the rank of a second-rate power, without agriculture, without manufactures, without ships, and reduced to six millions of inhabitants. Under her new kings she vainly essayed to emerge from her political nullity; bad institutions paralyzed all her efforts, and at the period of the French revolution she was behind all other European nations in respect to civilization. Napoleon wished to join Spain to his political system; he forced Charles IV. and his son Ferdinand VII. to abdicate their crown, which he gave to his brother Joseph. The Spaniards made a heroic resistance. In the absence of the royal family, who were in prison, the ancient *Cortes*, or National Assemblies, which had been abolished by the houses of Austria and Bourbon, assembled to give a centre to the insurrection, and in 1812 they framed a constitution, which was recognized by the powers allied against France, but was abolished by Ferdinand VII. when he mounted the throne in 1814. This act of ingratitude excited insurrections, and in 1820, the

army, assembled in the island of Leon, proclaimed the constitution of 1812. Ferdinand, forced to accept it, summoned to his assistance the absolute sovereigns of Europe. France, then under the rule of Louis XVIII., sent him an army, which, with hardly any fighting, dispersed the government of the Cortes and re-established absolutism. In 1832, Ferdinand seeing his end approaching, and having no children except a daughter, abolished the Salic law, which the Bourbons had introduced into Spain, and caused his daughter to be acknowledged heiress to the throne, to the exclusion of his brother Don Carlos. His death was the signal for civil wars and long political strifes, which only ceased a few years since.

Portugal.—The first king was Alphonso Henriquez, in 1139. His dynasty became extinct in 1580. Philip II., king of Spain, succeeded in uniting Portugal to his kingdom, whereby the prosperity of Portugal, derived from vast colonies in America and Asia, greatly declined. In 1640, the Portuguese rose in rebellion against the Spaniards, and placed on their throne the house of Braganza, which reigned for a century and a half without interruption, but without raising the country from its insignificance. In 1807, Napoleon sought to bring Portugal into his continental system, and sent an army into the country. The royal family fled to Brazil; Portugal rose against the French as Spain had done, and with her recovered independence and her kings in 1814.

§ III.—SOUTHERN WATERSHED.

It is formed by the southern slope of the Alpujarras, from Cape Tarifa to Cape Gata, and describes a segment of a circle whose arc is 174 miles long, but whose radius is only 50.

Mountains.—The range of the Sierra Nevada is the shortest, but the highest and most rugged, in the peninsula. Beneath a burning sky its summits are covered with perpetual snow, and all its groups exhibit a peculiar appearance of dislocation and confusion. Cape Tarifa retains traces of the rupture that joined the Mediterranean with the Atlantic, and similar traces are seen on the other side of the strait, in the African chain. The Sierra Nevada is divided into the Sierra *de Ronda*, Sierra *de Alhama*,

Sierra *Nevada*, and Sierra *de Filabres*; the Sierra *Nevada*, properly so called, contains the culminating point of all the Spanish peninsula, the *Cerro de Mulhacen* (11,660 feet). The *Alpujarras* are its southern spurs; they are not above 6,560 feet high. All these mountains are rich in minerals, particularly lead, of which 49,000 tons are extracted annually. They separate the first waters of the Mediterranean from the basin of the Guadalquivir, and are crossed by several very difficult roads: 1, from Gibraltar to Cordova, by Ronda; 2, from Malaga to Cordova, by Antequerra; 3, from Motril to Granada, by a pass at the height of 10,125 feet; 4, from Gibraltar to Malaga, skirting the coast, and thence to Granada.

General Aspect.—The slopes of the Sierra Nevada present the most divers aspects: here, deep valleys, streams in abundance, an African sun tempered by sea-breezes, cause all the vegetation of the torrid zone to grow almost without culture; there, wild gorges, gigantic mountains, a granite soil, form a desert and uninhabitable country. In this region the Moors entrenched themselves for several centuries, and resisted the Spaniards with the energy of desperation; the Arab character is perceptible in the physiognomy and manners of the inhabitants.

Coast.—It is tortuous, not deeply indented; its principal Capes are—*Tarifa, Gibraltar*, and *Gata*. The seaports are:—

1. Tarifa, a fortified town on the strait of Gibraltar, besieged by the French in 1801. 2. Algeciras, a fortified town on the strait, with a good and extensive roadstead; naval combat in 1811, between the French and English. 3. Gibraltar, at the extremity of the strait that bears its name, a military port with a large trade; it is deemed an impregnable fortress, and the key of the Mediterranean. It is situated on the western slope of a promontory that forms a small peninsula, three miles long and half a-mile broad, terminated by the *Point of Europe*. This promontory consists of a mass of rocks 1,300 to 1,600 feet high, presenting a precipitous front and vertical cliffs on all sides; it is inaccessible on the land side, and seawards it bristles with batteries, and is hollowed out into subterranean galleries capable of holding a little army. Gibraltar belongs to the English, who captured it in 1704; it was ineffectually besieged in 1705,

1708, and 1782 by the Spaniards and French. The possession of this rock and of Malta gives to Britain the dominion of a sea whence nature had excluded her. To the N.W. of Gibraltar is the entrenched camp of San Roque, raised by the Spaniards against the British. 4. Malaga, a large town of 112,000 inhabitants, with fortifications and a fine harbour. 5. Almeria, a decayed town, with an old castle.

Rivers.—These are mere streams, deeply embedded, very short, and of little importance. We may mention: 1, the *Guadiaro*, which passes at Ronda, celebrated for its situation among the wild mountains, at an elevation of upwards of 3,280 feet; 2, the *Guadajoz*, which passes at Antequerra.

Political Divisions.*—The southern watershed forms part of the province of Granada, which was only united to the Spanish monarchy in 1496.

§ IV.—WESTERN WATERSHED.

This watershed is formed first by the northern slope of the Sierra Nevada, then by the western slope of a series of very confused groups which precede, compose, or follow the central plateau, and which are commonly called the *Iberian Hills* (Sierra de Huescar, Sagra, Segura, Alcaraz, Cuença, Albaracin, Molina, Siguenza, Urbion, Moncayo, Occa, Reynosa); finally, by the southern slope of a part of the Atlantic Pyrenees. From Cape Tarifa to Cape Finisterra, it describes a semicircle, the radius of which is about 370 miles, and which comprises more than the half of the Peninsula. In this space is situated the kingdom of Portugal, which occupies a section of the coast of a rectangular form, having a base of 360 miles and a width of from 100 to 124 miles.

Three large chains perpendicular to the Atlantic coast, parallel to one another, as also to the ranges of the Alpujarras and the Atlantic Pyrenees, traverse the whole breadth of the watershed, and terminate or lose themselves in the central plateau. These five long series of steps, running in the same

* We take the ancient historical divisions of Spain, which are at the present day the military divisions, or *general captainries*. The new administrative divisions are only subdivisions.

direction, enclose four large and perfectly distinct basins, each traversed by a river: Guadalquivir, Guadiana, Tagus, Duero.

1.—BASIN OF THE GUADALQUIVIR.

This basin is formed: 1, by the northern slope of the Sierra Nevada; 2, by the western slope of the first sierras of the Iberian hills, which form the head of the basin; 3, by the southern slope of the chain between the Guadalquivir and Guadiana. General direction, from N.E. to S.W.; length, 300 miles; greatest breadth, 125 miles.

Encircling Mountains.—1. The northern side of the Sierra Nevada is only remarkable for the tortuous and confused spurs which it sends into the basin and which the streams have to pass.

2. The sierras of *Huescar*, *Sagra*, *Segura*, and *Alcaraz*, which close the basin on the west, have the same character; their confusion is extreme, and their connection uncertain. They are crossed by a small number of very bad roads; the most remarkable goes from Carthagena to Granada by Guadix.

3. The long chain that separates the basin of the Guadalquivir from that of the Guadiana is united to the western end of the Sierra de Alcaraz; this chain terminates at the mouth of the latter river. Its length is 248 miles, its breadth 50 miles. There is no grandeur in its appearance: it consists of a series of bare slopes, softly rounded, and not very high. The most eastern part, that which is in immediate contact with the central plateau, is called *Sierra Morena*. Towards the plateau, it appears as a mere collection of low hills; but on its southern side, it is very precipitous, and presents the appearance of great chains. Though abounding in streams and deep valleys, and though it contains excellent sites and a thick layer of vegetable soil, it is one of the most desert, uncultivated, and impoverished parts of the peninsula; the only living things to be seen in it are a few cattle, attended by wild shepherds; and brigands have given these mountains a sinister reputation. It is crossed by a fine and important road, running through the formidable pass of *Despena Perros* (1,790 feet), which was the theatre of many fights during the wars of 1808 to 1812. This road, whose length is 250 miles, connects the central plateau with the sea,

or Madrid with Cadiz by Ocaña, Villaharta, La Carolina, Andujar, Cordova, and Seville. The remainder of the whole chain diminishes in height, and takes the names of sierras of *Constantina* and *Aroche*, which are pierced by a few roads: 1, from Cordova to Badajoz by Llerena; 2, from Seville to Merida by the Pass of Monasterio; 3, from Seville to Lisbon by Beja.

General Aspect.—The climate of this basin resembles that of the southern watershed: the plains are burning, but the temperature of the elevated valleys is mild. The population, scanty and ignorant, leaves uncultivated and desert the most fertile spots, where the surface and the interior of the earth vie with one another in wealth. Horses of Arab race, herds of the finest cattle in the world, flocks of merinos with wool of the best sort, marble quarries, mines of mercury, silver, and lead, salt in abundance: such are the riches offered by this country, where arts and manufactures are at the lowest ebb, and the population has fallen off to such an extent, that the 12,000 towns and villages which in the times of the Arabs covered the banks of the Guadalquivir are now reduced to 800.

Coast.—It forms the arc of a pretty deep circle from Cape Tarifa to the mouth of the Guadiana, and is generally low and sandy. The most remarkable projection is *Cape Trafalgar*, celebrated as the scene of the naval battle of 1805, where the combined French and Spanish fleets were destroyed by the British fleet. The principal seaport is Cadiz (Gades), situated at the northern point of the Isla de Leon, which is separated from the mainland by the bay of Puerto Real and the strait of Rio Santi Pietri; it is a strongly fortified town, the greatest commercial city of Spain, and one of the first towns in the world for commerce, admirably situated at the entrance of two seas; 72,000 inhabitants. It was pillaged by the British in 1596, besieged by them in 1702, bombarded by them in 1800, besieged by the French in 1811, taken by them in 1823. It is one of the three military ports of Spain. Cadiz has two roadsteads: the great one on the north, surrounded by fortresses, more than fifteen miles in circumference, and situated between Rota, Puerto Santa Maria, and Cadiz; the little one on the south, defended by forts San-Luis and Puntales, and forming the entrance to the bay of Puerto Real. In this bay are the works and canal of *Trocadero*,

taken by the French in 1823; PUERTO REAL, harbour and dock-yard; LA CARACA, military arsenal, defended by several ports, at one of the ends of the Rio Santi Pietri. This arsenal is connected by the works of the bridge of Suazo, with the town of LEON or SAN FERNANDO, celebrated in the revolution of 1820.

To the S.E. of the mouth of the Guadalquivir, the *Guadalete* discharges its water into the great roadstead of Cadiz. This river is remarkable from its passing through the fields of JERES DE LA FRONTERA,* where, in 711, the battle was fought which gave the Arabs possession of the Peninsula.

To the N.W. of the same mouth the *Tinto* runs into the sea: near it lies the ruined port of PALOS, whence Columbus embarked on the 3rd August, 1492, on his celebrated voyage of discovery.

Course of the River.—The *Guadalquivir* (Bætis) rises in a branch of the Sierra Sagra, flows westwards through very rugged, almost uninhabited country, passes near UBEDA, battle between the French and Spaniards in 1810; washes ANDUJAR, important on account of the road from Madrid to Cadiz; CORDOVA (Cordoba), seat of government of the Arabs, in whose time it numbered 100,000 inhabitants, now greatly fallen off, only remarkable on account of its Moorish monuments; taken by the French in 1808 and 1810. Thence the river runs through a flat, rich, but not populous country, becomes navigable, and washes SEVILLE (Hispalis), a large commercial town, of 152,000 inhabitants, capital of Andalusia, having a school of artillery, a cannon-foundry, &c.; taken by the French in 1810. It then becomes obstructed by alluvial deposits, which hinder navigation and form islands of considerable size, where excellent cattle are pastured. Then a band of land five miles broad, called the *Marisma*, runs alongside of the river to its mouth, that is to say, for 37 miles: it is a deserted and uninhabitable region, where the sun reduces the soil to dust, which is driven about by the winds, and which the saline streams convert into a black, tenacious mud. Opposite the Marisma, and on its right, the river is fringed by a desert 93 square miles in superficies, beyond which it runs into the sea at SAN LUCAR DE BARAMEDA, after a course of about 250 miles.

* Spanish words formerly spelt with guttural X are now invariably written with J, as: Xeres, Jeres; Loxa, Loja, &c.

Tributaries on the Left.—The first of these are saline brooks passing through basins of a saline formation, and watering a country with few inhabitants; one of these passes at JAEN, the ancient capital of a kingdom of the same name on the road from Granada to Andujar; then comes:

The *Genil*, which rises in the middle of the Sierra Nevada; it receives the *Daro*, which washes GRANADA, a large town of 100,000 inhabitants, celebrated for its Arab fortress or palace of the Alhambra, taken from the Moors in 1492, and occupied by the French in 1810; it then passes through the rich country of Granada, the theatre of the wars against the Arabs, where all the villages are still fortified; at LOJA it penetrates between two detached chains of the Sierra Nevada; washes ECIJA on the great road from Madrid to Cadiz, and terminates above PALMA.

Tributaries on the Right.—1. The *Guadalimar*, a shallow stream with a long course, descends from the Sierra de Alcaraz. It receives the *Guadarmena*, which washes ALCARAZ, a small town defended by a castle.

2. The *Guadiel* and the *Rumblar* are torrents of the Sierra Morena, between which runs the great road from Madrid to Cadiz; on this road we find: NAVAS DE TOLOSA, celebrated for the battle of 1212, where the Christians beat the Moors; LA CAROLINA, the centre of the German colonies established in 1767; BAYLEN, celebrated for the defeat and capitulation of the French in 1808; this village lies 17 miles north of Andujar, and faces the ford of *Mongibar*, by which the Spaniards crossed the Guadalquivir, and got between the two divisions of Dupont and Wedel.

The other tributaries on the right are very numerous, but offer nothing remarkable, except the *Huelba*, through whose basin runs the road from Seville to Merida, and which ends above the first-named town.

Political Divisions.—The basin of the Guadalquivir belongs politically to Andalusia, which was formerly divided into three kingdoms; SEVILLE on the south; CORDOVA, in the middle; JAEN, on the north. It has no military importance, except as containing the road from Madrid to Cadiz; its possession secures that of the south of the Peninsula, and its defence

is connected with that of the basin of the Guadiana, which contains the entrances to the plateau.

2.—BASIN OF THE GUADIANA.

This basin is formed by the northern slope of the chain between the Guadalquivir and Guadiana, and the southern slope of the chain between the Guadiana and Tagus; but as these two chains are not united on the east to the groups of the central plateau, the head of the basin which comprises the southern part of the plateau remains open, except on the south, where we find the Sierra de Alcaraz, and on the north, where we find the Sierra de Cuença; so that these two groups are only united by very high and flat ground. General direction: from N.E. to S.W.; length, 370 miles; breadth, 125 miles.

Encircling Mountains.—The chain between the Guadalquivir and the Guadiana shows nothing remarkable on its northern slope. The part of the central plateau that forms the basin is one of the dreariest portions of the Peninsula: it is merely a vast plain without undulations, trees, or water, scantily peopled, and only crossed by two roads—1, from Carthagena to Madrid, by Murcia and San Clemente; 2, from Valencia to Madrid by Requena and Valverde. The chain between the Guadiana and Tagus commences at Cape St. Vincent by the Sierra *de Monchique*, and runs almost directly north, throwing eastwards large branches that go to bar the Guadiana; it continues in this direction by the Sierra *de Estremoz*, turns to the east under the name of Sierra *de San Mamed*, and closely hugging the river, shoots up in the Sierra *de Guadalupe*, where it reaches a height of more than 5,248 feet; thereafter it takes the name of *Mountains of Toledo*, which become gradually lost in the great plateau, so that the head of the basin is separated from that of the Tagus only by inappreciable heights. The length of the whole chain is 348 miles; its breadth 50 miles. It is crossed by several roads—1, from Beja to Lisbon; 2, From Badajoz, by Elvas, to Estremoz; this is the road from Madrid to Lisbon, it is narrow and bad; 3, from Merida, by Truxillo, to Almaraz; it is the continuation of the preceding

one; 4, from Villaharta to Aranjuez; this is the great road from Madrid to Cadiz.

General Aspect.—The shore of this basin is exposed to equatorial heats only tempered by the sea-breezes; but the high regions enjoy a moderate temperature; the part between the shore and the plateau is almost desert and uncultivated, though very fertile. It is to the character of the inhabitants of this basin especially, that the Spaniards owe their reputation of pride, laziness, and ignorance.

Coast.—The coast is low and studded with reefs from the mouth of the Guadiana to Cape St. Vincent; it belongs to Portugal and is skirted by a road coming from Seville. The chief capes are those of *Santa Maria* and *St. Vincent* (Sacrum promontorium); the last-named is celebrated for a victory of the French over the combined British and Dutch fleets in 1693, and for one of the British over the Spaniards in 1797. The following seaports are met with:—1, CASTROMARIM, at the mouth of the Guadiana; 2, TAVIRA; 3, FARO; 4, LAGOS; 5, SAGRES, a small ruined seaport, whence Prince Henry of Portugal sent out the expedition that discovered the western coast of Africa. All these seaports are defended by ill-constructed fortresses.

Course of the River.—The *Guadiana* (Anas) rises in the north side of the Sierra de Alcaraz, in the lagoons of the central plateau, which produce a stream of small extent but remarkable volume. After running for ten miles through a marshy country, this stream disappears among the reeds and rushes near TOMELLOSO; then twelve miles farther on, at a place called *Ojos de Guadiana*, water rises from the earth in boiling jets, and almost immediately forms a magnificent river; it is the Guadiana reappearing on the surface. Flowing through an almost desert country, it washes VILLAHARTA road from Madrid to Cadiz, and passes within two miles and a half of CIUDAD REAL, battle of 1809, where Sebastiani defeated the Spaniards. Then it describes several curves, owing to the small chains that obstruct its passage, and washes:—MEDELLIN, victory of the French over the Spaniards in 1809; MERIDA (Emerita Augusta), a very celebrated city under the Romans, important at the present day by reason of the roads which meet there; BADAJOZ, a very strongly fortified

city on the left bank of the river protected by nine bastions, two advanced works, and the Castle of San Cristoval situated on the right bank, with a bridge head. This town is Spain's defence against Portugal. It played a conspicuous part in the war of independence as the goal of all the enterprises of the British and Spanish forces towards the centre of the Peninsula; it was taken by the French in 1811, and by the British in 1812. Leaving Badajoz, the river changes its direction and flows from N. to S.; it forms the boundary betwixt Spain and Portugal as far as Mourao, washes JURUMENHA, a Portuguese fortress, and leaves on its left Olivença, a Spanish fortress taken from the Portuguese in 1801. At MOURAO the Guadiana flows entirely in Portugal; it runs by the little fortress of SERPA, where, hemmed in by heights on the right and left, it dashes through a fissure of a few yards in breadth to a little above MERTOLA; then it resumes its former breadth, becomes navigable, again forms the boundary between the two kingdoms, and after a course of 398 miles, terminates between the Portuguese town of CASTROMARIM and the Spanish town of AYAMONTE. There is not a single bridge over it in its course through Portugal.

Tributaries on the Left.—These are very numerous and of considerable size, but they do not run through any remarkable place; the most important is the *Zuja*, in the basin of which are the rich quicksilver mines of *Almaden*. We may also mention the brook *Albuera*, which is skirted by the road from Saville to Badajoz, and beside which Soult was beaten in 1811, when attempting to force the British to raise the siege of Badajoz.

Tributaries on the Right.—They are less in size than those on the left, in consequence of the proximity of the encircling chain.

1. The *Giguela* ought to be regarded as the true Guadiana by reason of the length of its course and its numerous tributaries. One of them, the *Reus*, which runs by SAN CLEMENTE is only separated from the bed of the Xucar, a river that runs into the Mediterranean, by a marsh, so that the waters of the two seas might be joined by a cutting of a few yards through some rush-covered mud. Near the sources of the Giguela, on the road from Valencia to Madrid lies UCLES, where Victor beat the Spaniards in 1809.

2. The *Xevora* or *Gebora*, a stream skirted by the road from Alcantara to Badajoz, terminates before the last-named town; not far from its banks lies ALBUQUERQUE, a small Spanish fortress. This river is celebrated for the battle of 1811, where Marshal Soult defeated the Spaniards, who sought to force him to raise the siege of Badajoz.

3. The *Caya* washes CAMPO MAYOR, a Portuguese fort of observation on Badajoz.

The last tributaries are very short torrents which descend from the Sierra Estremoz and open communications across that chain; they are defended by ELVAS, the rival of Badajoz, and the strongest town in Portugal; it protects the great Lisbon road.

Political Divisions.—This basin includes, politically:—1. The southern part of NEW CASTILE, called LA MANCHA, capital CIUDAD-REAL; 2, the southern part of Spanish ESTREMADURA, capital BADAJOZ; 3, the western part of ALEMTEJO, capital EVORA; 4, the little kingdom of ALGARVES, capital LAGOS. It is not a military basin; situated betwixt the basins of the Guadalquivir and Tagus, it is not of importance in connection with them, for the defence either of Portugal or Andalusia. Portugal is protected against Spain on this side by the Guadiana, and behind, by the sierras of Ourique and Estremoz, the eastern flanks of which are studded with fortresses, the northern spurs of the last-named extending as far as the Tagus. Spain is protected against Portugal, not so much by the Guadiana, both banks of which, for more than fifty miles, belong to the latter power, as by the spurs of the Sierra de Aroche, which spread along the river from Badajoz to Ayamonte. Badajoz and Olivença protect the flat portion of the frontier.

3.—BASIN OF THE TAGUS.

This basin is formed by the northern slope of the chain between the Guadiana and Tagus; the southern slope of the chain between the Tagus and Duero, and by the middle of the central plateau. General direction, from N.E. to S. ; length, 450 miles; breadth, 100 miles.

Encircling Mountains.—We saw that the chain between the Guadiana and Tagus becomes lost in the mountains of Toledo

in the great plateau; the head of the basin of the Tagus, therefore, remains open to the S.E., and is almost united with that of the Guadiana; but towards the N.E., it has groups of considerable size, which have only a very gentle slope to the west. These are the sierras of *Cuença*, *Albaracin*, *Molina*, and *Siguenza*, which are well connected with one another, but are very confused and not very high. The largest is the Sierra de Albaracin, a sort of central nucleus of the Peninsula, whence proceed long branches and streams in every direction (the Tagus to the west, the Jiloca to the north, the Guadalavia to the east, the Jucar to the south). These sierras are crossed by several roads:—1, from Valencia, by Cuença, to Madrid; 2, from Saragossa to Madrid, by Calatayud.

The Sierra Siguenza is united in a very confused manner, with the chain between the Duero and Tagus, which extends in a sinuous manner from N.E. to S.W. from the great plateau on which it abuts to Cape Rocca; it is 370 miles long and 60 miles broad. It is the greatest and most elevated chain in the interior of the Peninsula.

Its eastern part divides the two Castiles, and is composed: 1. Of the groups of *Somo Sierra*, very precipitous and rugged, the true defence of the centre of the peninsula against invasions from the north; they are traversed by the great road from Madrid to Aranda and Burgos, which crosses at the pass of Somo Sierra (4,943 feet), a formidable position, famous for the passage and victory of the French in 1808. 2. Of the Sierra *Guadarrama*, the highest top of which is 8,858 feet; it is crossed at the pass of the Lion (4,651 feet) by another road from Madrid to Burgos, by Valladolid, finer and not less difficult than that by Aranda, and famous for the passage of the French in 1808. 3. Of the Sierra of *Avila*, which contains the wildest parameras and most barren steppes of the peninsula.

The central part of the chain between the Duero and Tagus separates Estremadura from the kingdom of Leon, and is comprised of the sierras of *Gredos* and *Gata*, which rise to a height of 10,500 feet, and are remarkable for their thickness and the steepness of their northern slopes; the former is crossed by the road from Placencia to Salamanca at the pass of Baños, famous for the passage of the French in 1809, who then defeated the

British and Portuguese; the latter is traversed by the road from Coria to Ciudad Rodrigo, which crosses at the pass of Gata.

The western part of the chain between the Duero and Tagus belongs to Portugal, and is composed:—1. Of the sierra *de Estrella*, a long and thick wall, 6,560 feet high, the perpendicular spurs of which, in the form of ridges or terraces, furrowed by deep streams, prevent all access; it is only crossed by a very bad road from Abrantes to Almeida; in 1807 Junot followed this road for some distance, and nearly lost his army. It is the best defence of Portugal against Spain; it must be turned in order to march on Lisbon, because the Tagus, barred and obstructed by its ramifications, offers no natural road, and Lisbon can only be approached from Madrid by the two contiguous basins; the first road is on the south by Almaraz, Badajoz, Estremoz, described in the preceding basin; the second is on the north by the Guadarrama on Salamanca, or the Gata on Ciudad Rodrigo; thence it descends by Abrantes and Santarem, or turns the Estrella by Almeida, Viseu, Coimbra, and Torres Vedras, where it crosses the western end of the chain between the Duero and Tagus; it was this route that Massena followed for some length in 1811. 2. Of the Sierras of *Lousaa* and *Cintra*, which stretch from N.E. to S.W. as far as Cape Roca; they are not very dense, but very rugged, and are crossed only by the road from Lisbon to Coimbra by Torres Vedras. The northern side of the last-named contains two remarkable places: Vimeiro, battle of 1808, as a consequence of which Junot was forced to evacuate Portugal; Torres Vedras, where the impregnable lines of Wellington arrested Massena on his march to Lisbon, and forced him to evacuate Portugal; Cintra, where was signed the capitulation that followed the battle of Vimeiro.

General Aspect.—The climate of this basin is generally healthy and warm. Trade and manufactures there are almost wanting; the towns are rare and scantily peopled; the fields are desert and barren; the roads very bad, except in the neighbourhood of the two capitals. As for the inhabitants, Spaniards and Portuguese, their characters are alike, in spite of the political aspirations that have filled them with inveterate hatred to one another; on the coast, as on the plateau, we find the same gravity, the same indolence, the same superstition.

Coast.—It is nearly straight as far as the Bay of Setubal, and between that bay and the Gulf of Lisbon is a little peninsula, at the S.W. extremity of which is Cape Espichel. It consists of precipitous rocks alternating with flat sandy shores. The capes are: *Sines*, *Espichel*, and *Rocca;* the ports, SINES, SETUBAL (a commercial town defended by three forts), and LISBON.

Course of the River.—The *Tagus* (in Spanish *Tajo*) rises at the confines of the central plateau, in the *Muela de San Juan*, a desert terrace forming part of the Sierra de Albaracin, covered by snow for eight months of the year; its bed is like that of a torrent, obstructed and narrowed by scattered rocks; its banks are dry and perpendicular, its water yellowish and muddy; the country it runs through, composed of treeless, uninhabited, sandy plains, is hideously ugly, exposed to a sky without clouds or to violent storms: nought greets the eye but melancholy groups of holm-oak and flocks of merino sheep, tended by wild-looking shepherds. In these deserts it runs by ALMONACID, where Sebastiani beat the Spaniards in 1809. It begins to have a less rugged character at ARANJUEZ, a town important by reason of the roads that meet there, the railroad connecting it with Madrid, and its royal palace celebrated for the revolution of 1808; it then leaves to the left the plains of OCANA, celebrated for the victory of Soult over the Spaniards in 1809; it washes TOLEDO (1,847 feet), the seat of empire of the Goths, taken from the Arabs by the Christians in 1085, now fallen into decay and almost uninhabited;—TALAVEYRA DE LA REYNA, battle of 1809, where the British defeated the French;—PUENTE DEL ARZOBISPO, battle of 1809, where the French beat the Spaniards;—ALMARAZ, a town of great importance on account of its bridge, which is fortified, and celebrated in the war of independence as the road from Madrid to Badajoz, and as uniting Badajoz with Ciudad Rodrigo;—ALCANTARA, a poor fortress, with a fine Roman bridge, formerly the chief seat of a military order. Here, incommoded by the spurs of the Sierra de Estrella, and the Sierra de San Mamed, which bar its passage, its course becomes more tortuous, and is obstructed by rocks and rapids. It serves as the boundary betwixt the two kingdoms until below MONTALVAO, whence it runs through

Portuguese soil alone; it then flows through a barren country covered with frightful hills, to ABRANTES. Here it begins to have a more placid course; its bed becomes wide and majestic, its fields are fertile and populous. Thus it arrives at SANTAREM, where in 1811 Massena fortified himself in front of Wellington, shut up at Torres Vedras. It then gets wider and wider, divides into several branches, and ends by forming a kind of delta studded with many islands; it then becomes a great estuary, on the right bank of which lies LISBON (Olisippo), the capital of Portugal (population, 224,000), with a harbour of 8 square miles; the only military harbour of this kingdom, and one of the best in the world, taken by the French in 1807. Below this city it grows gradually narrower, forms a dangerous bar between Forts ST. JULIAN, ST. ANTONY, and BUGIO, which defend its entrance; finally it flows into the Atlantic by an immense opening bounded by Capes Rocca and Espichel, after a course of 420 miles, of which only 75 are navigable.

Tributaries on the Left.—These are mere torrents which pass through no place of interest; we may mention only two in Portugal:—1, the SEVER, in whose basin lies MARVAO, a fortress connected with Campo Mayor in order to cover the space betwixt the Guadiana and Tagus; 2, the *Zatas*, which rises in the Sierra Estremoz, and with its tributaries waters an almost desert country.

Tributaries on the Right.—1. The *Xarama* descends from the Somo Sierra, ends below Aranjuez, and is only remarkable from the rivers that fall into it:—1. The *Tajuna*, which washes BRIHUEGA, a town defended by an old castle, taken by assault in 1710 by Vendôme, who there compelled the rear-guard of the allies to surrender; near that is VILLAVICIOSA, where, two days afterwards, he beat their army. 2. The *Henarez*, which runs past SIGUENZA, GUADALAXARA (2,329 feet), and ALCALA. 3. The *Mançanarez*, a stream that washes MADRID, the capital of Spain, in the centre of the plateau, at a height of 2,204 feet, in a dry plain, destitute of water and verdure: population, 475,000. Taken by the French in 1808 and 1823.

2. The *Guadarrama* in the mountains runs by the *Escurial* (2,364 feet), a monastery built by Philip II. to commemorate the battle of St. Quentin; it ends below Toledo.

3. The *Alberche*, on the banks of which the battle of Talaveyra was fought, and ends close to that town.

4. The *Alagon* rises in the basin of the Duero, and gets into that of the Tagus through a breach it has dug out between the sierras of Gredos and Gata; its upper basin contains Baños and the pass of that name; it becomes enlarged by the waters of the *Jerte*, on which stand PALENCIA and CORIA, and terminates above Alcantara.

5. The *Herjas* marks the frontier of Portugal, and passes near MONSANTO, a half-ruinous Portuguese fortress.

6. The *Zezere* descends from the Sierra Estrella, runs from west to east, inclining towards the south, between the Sierra Estrella and an enormous spur detached from the sierra, and called Sierra *Moradel;* it runs through a very sterile and hilly country, well adapted for defensive warfare, and which is celebrated in the wars of Portugal; it terminates below Abrantes.

7. The *Alenquer*, a very much enclosed little river, remarkable as the line of defence of Lisbon, which it encloses in a triangle formed by it, the Tagus, and the mountains; it was here that Massena first sat down in 1811, before the lines of Torres Vedras.

8. The brook *Alcantara*, which flows through a suburb of Lisbon and was formerly outside the town, is famous for the battle of 1580, gained by the Duke of Alba over the Portuguese, which produced the temporary union of Portugal to Spain.*

Some coast streams that fall into the sea between Cape St. Vincent and the mouth of the Tagus belong to this basin. The most remarkable is the *Sadao*, which rises in the Sierra de Monchique, runs from south to north as far as ALCACER DO SAL, when it turns to the N.W. and falls into the bay of Setubal after a course of 87 miles. One of its tributaries rises near EVORA, a very ancient stronghold, seat of the government of Sartorius, now a mere ruin; it was sacked by the French in 1808.

Political Divisions.—The basin of the Tagus comprises politically:—1. The northern part of NEW CASTILE, capital MADRID; 2, the northern part of Spanish ESTREMADURA; 3, the western part of ALEMTEJO; 4, the southern part of BEIRA, capital COIM-

* See *Essai sur l'Histoire de l'Art Militaire*, par Carrion-Nisas, t. ii, where the march of the Duke of Alba is compared to that of Junot.

BRA; 5, the greater part of Portuguese ESTREMADURA, capital LISBON. It is the most military basin of all the interior of Spain, in consequence of the central plateau it occupies, and whence we can pass into the basins of the Duero and Guadalquivir; moreover it contains the two capitals of the Peninsula.

4.—BASIN OF THE DUERO, WITH THE SECONDARY BASINS OF THE MONDEGO AND MINHO.

This basin is formed by the northern slope of the chain between the Tagus and Duero; by the western slope of a part of the Iberian sierras; by the southern slope of a part of the Atlantic Pyrenees. Its general direction is from east to west; its length, 370 miles; its breadth, 225 miles. It is the largest in the Peninsula.

Encircling Mountains.—1. The northern side of the chain between the Tagus and Duero throws off considerable branches, especially those that are given off by the Sierra Estrella; some of them form a long wall parallel to the Portuguese frontier; others, of which the principal groups are the Sierras of *Caramula* and *Alcoba*, run first N.W., then S.W.; they enclose the small basin of the Mondego in a triangle of mountains, of which they form two sides, and of which the Sierra Estrella is the base. These mountains are crossed by the road from Almeida to Coimbra and Lisbon; and one of the first mamelons or rounded heights, the *Busaco* (1,847 feet), which blocks this road, was the theatre of Massena's first battle when he invaded Portugal. All this triangular mass is quite a labyrinth and comprises a most desolate country, which was the scene of the march and retreat of the French.

2. The top of the central plateau is very high, barren, and to the east studded with groups of considerable size, the principal of which are the sierras of *Moncayo*, *Urbion*, and *Occa;* the last-named only attains a height of 5,248 feet, but the first-mentioned is more than 9,840 feet high. The western slope of these groups is gentle, and becomes lost in the plateau, which on this side is quite naked and desert. They are crossed by important roads: 1, from Burgos to Palencia, by the Sierra de Occa and Logrono on the Ebro; 2, from Burgos to Vittoria by the pass of Pancorbo; this is the great road from

Madrid to France. The Sierra de Occa is united by very elevated plains with the Sierra *Reynosa*, near the middle of the Atlantic Pyrenees, and about the sources of the Ebro.

3. The range of the Pyrenees stretches in a straight line from Cape Finisterre on the Atlantic, to Cape Creus on the Mediterranean, a length of 500 miles, with an average breadth of 75 miles. It is divided naturally into *Atlantic* and *Continental Pyrenees*, or *Spanish* and *French Pyrenees*. The Atlantic Pyrenees extend from Cape Finisterre to the Pass of Goritty, whence a large branch is thrown off that terminates at the point of Figuier, at the top of the Bay of Biscay; they are divided into three groups: the *Galician*, *Asturian*, and *Biscayan* Pyrenees. The two first belong entirely to the basin of the Duero. Though lower, these mountains are wilder and more inaccessible than the Continental Pyrenees; the tops of several of them are within the line of perpetual snow; the *Peña de Peñaranda* is 11,030 feet, and the *Peña de Peñamarella* 9,465 feet high. They throw off large branches southwards, some of them become lost on the Duero, others enclose the very contracted little basin of the Minho. Their passes are difficult and high; they are crossed by but few roads:—1, from Burgos to Santander by the sources of the Ebro; 2, from Leon to Oviedo; 3, from Valladolid to Coruña by Astorga and Lugo; it is a fine road, but very difficult, for it crosses all the southern spurs of the Galician Pyrenees; it is memorable for the retreat of the British in 1808 before the French army, which compelled them to embark at Coruña; 4, from Oporto to Coruña or Ferrol by Braga, Chaves, and Santiago; this was the road taken by Soult in 1809.

General Aspect.—This basin might be made very rich; but the agriculturist only tills the most fertile lands, leaving all the rest fallow. Some parts covered with movable sand are incapable of cultivation; others have such a deep rich soil that in winter they turn into thick sticky mud. The parameras are numerous, the rivers apt to overflow, the communications bad. The climate is generally uncertain and somewhat severe; the appearance of the country extremely miserable; monotony pervades everything, inhabitants and nature.

Coast.—It is indented, generally low and sandy, and from

Cape Rocca to Cape Finisterre describes an arc of a circle feebly pronounced. Its most remarkable projections are Capes *Peniche*, *Mondego*, *Corrobedo*, and *Finisterre*. It contains the following seaports: PENICHE, AVEIRO, OPORTO at the mouth of the Duero, CAMINHA at the mouth of the Minho, VIGO, a bad fortress in a very safe bay. Naval battle in 1702, won by the British over the French. The four first named are in Portugal, the last is in Spain.

Streams south of the Duero.—1. The *Mondego*. Its basin is very hilly, and is formed on the south by the Sierra Estrella, on the north by the Sierras of Caramula and Alcoba; its shape is a sort of truncated pyramid, which it is absolutely necessary to pass in an invasion of Portugal, by the road from Almeida to Coimbra, which runs at right angles to it. The river rises in the Sierra Estrella; its bed is hemmed in between inaccessible mountains crossed only by wretched bridle roads; after being joined by some mountain-torrents, which offer lines of defence at every step, it enters on level ground at COIMBRA, the capital of the province of Beira, on the road from Lisbon to Oporto, and it terminates at FIGUEIRA, where Wellington disembarked in 1808.

2. The *Vouga*, a torrent-like stream, rises in the Sierra Alcoba, and ends in the bay of Aveiro.

Course of the Duero.—The *Duero* (Durius, in Portuguese Douro) rises in the lagoons on the south side of the Sierra de Urbion. It passes near the ruins of Numantia, the "second terror of the Romans," the ancient key of the great plateau which here opens out in all its nudity; this is why the Romans attached so much importance to the possession of this city, which secured to them the entrance to the centre of the Peninsula, and whence they could descend when they pleased towards the sea-coast by the four great rivers. After Numantia the river washes SORIA, situated on the barest and highest parameras of the Peninsula, where it excavates deep channels, and runs through a dismally monotonous country;- ARANDA, important for the road from Madrid to Burgos;—PUENTE DE DUERO, where the road from Madrid to Valladolid passes; TORDESILLAS, where the road from Madrid to Leon passes;—TORO, on the road from Salamanca to Leon;—ZAMORA, a garrison town. Above

MIRANDA, a Portuguese town, it encounters a long offshoot from the Galician Pyrenees, which forces it to run from north to south; it serves as the frontier to Spain and Portugal for fifty miles, resumes its westerly direction and flows entirely in Portugal passing various unimportant place still it comes to OPORTO (Calle-Portus), one of the most important commercial towns of Europe, with a population of 50,000, and a harbour dangerous on account of the sand-banks and islands formed by the river; it was stormed by the French in 1809, after a sanguinary battle gained by Marshal Soult. The Duero runs a course of 370 miles, but it is navigable only for 75 miles. It is subject to very dangerous floods. There are no bridges over it except at Puente de Duero, Tordesillas, and Zamora.

Tributaries on the Left.—1. The *Eresma* rises in the Sierra Guadarrama, passes near SAN ILDEFONS, a palace of the kings of Spain, situated in the mountains, at a height of 3,800 feet, washes SEGOVIA (3,034 feet) on the road from Madrid to Burgos, where there is an old citadel and a military school. It receives the *Adaja*, on which stands AVILA (3,483 feet), and which flows through very wild plateaus.

2. The *Tormes* rises in the Sierra de Gredos, and washes ALBA, battle of 1809, where the French beat the Spaniards;—SALAMANCA, a town of importance from its position, its roads, and its university; near it are the village and heights of ARAPILES, where the British beat the French in 1812. This river is famous in the war of independence; there is not a corner of the ground, from the mountains to its banks, that has not been the scene of some fight.

3. The *Agueda* rises in the Sierra de Gata, and runs through CIUDAD RODRIGO, a very strongly fortified town, the defence of Spain against Portugal, and very similar to Badajoz. This stronghold closes one of the roads from Madrid to Lisbon. It was taken by the French in 1810, and by the British in 1811. The Agueda forms for a portion of its course the frontier of Portugal.

4. The *Coa* rises in the Sierra de Gata, flows in Portugal, and washes ALMEIDA, a very strongly fortified town, the rival of Ciudad Rodrigo, placed in front of the Estrella, as we have seen Elvas placed in front of the Estremoz; taken by the French in 1810, and by the British in 1811. The spur which separates the

Coa from the Agueda contains the table-land of FUENTES DE ONORO, celebrated for the battle Massena fought with the British in 1811, for the purpose of raising the siege of Almeida. The banks of both these rivers are very steep, and their basins very mountainous; first defences of Portugal, they rest behind on the spurs of the wall-like Sierra Estrella.

Tributaries on the Right.—1. The *Pisuerga* rises in the plateau of Reynosa, washes TORQUEMADA, is skirted by the road from Burgos to Valladolid, and passes by VALLADOLID, the centre of the roads of the basin of the Duero, the two chief of which run—one to Burgos and France, the other to Astorga and Coruña. Into it flow: 1. The *Arlanzon*, which washes BURGOS (2,870 feet), capital of Old Castile, with an old castle and bad enceinte, of importance on account of its position in the centre of the roads to France, ineffectually besieged by Wellington in 1812; the road from Burgos to Valladolid skirts the Arlanzon as far as its confluence. 2. The *Carrion*, which washes CARRION and PALENCIA.

2. The *Sequillo* flows by MEDINA DE RIO SECO (victory of the French over the Spaniards in 1808), and terminates above Zamora. It is united by a canal with the Pisuerga.

3. The *Ezla* rises in the Asturian Pyrenees, and is only remarkable for its numerous tributaries: 1, the *Torio*, which runs by LEON (Legio septima), the first town retaken by the Christians from the Moors, capital of the kingdom of Leon; 2, the *Tuerto*, which flows by ASTORGA (2,558 feet), a ruinous stronghold on the road to Coruña.

4. The *Sabor*, the *Tua*, and the *Tamega*, Portuguese streams, rising in the chain between the Duero and Minho; they pass through a rugged and wild country, forming the province of Tras os Montes; in the basin of the first is BRAGANÇA, capital of a duchy, the eighth duke of which became king of Portugal in 1640; on the last are CHAVES and AMARANTE, celebrated in the campaign of 1809. The country between the Tamega, the Duero, and the sea, was the theatre of the masterly retreat of Marshal Soult, in 1809.

Streams north of the Duero.—1. The *Cavado* washes BRAGA, capital of the small province of Entre Douro Minho, a beautiful and fertile country, the most busy and populous in Portugal. This river is celebrated in the campaign of 1809.

2. The *Minho* (Minius) has a very irregular and mountainous basin, divided into two parts. The upper part is bounded by: 1, the Atlantic Pyrenees, from the Peña de Peñaranda to the Sierra de Loba, which is crossed by the road from Lugo to Coruña; 2, a large spur, detached from the same Peña, which runs in a very tortuous manner under the names of Sierras of *Elstredo*, *Segundera*, and *San Mamed*, to the confluence of the Sil: these mountains attain an elevation of 6,560 feet; 3, a detached spur from the Sierra de Loba, which joins the last-named at the confluence of the Sil. The space enclosed by these mountains is traversed by the upper parts of the Minho and Sil, and is crossed near the middle by a third spur, detached from the Sierra Peñamarella, which separates the basin of the upper Minho from that of the Sil. These three spurs, and the basins of both the Minho and Sil, are crossed by the road from Astorga to Coruña, which is quite a defile, 100 miles long, celebrated for the retreat of the British in 1808.

The lower part of the basin is narrower, less mountainous, better cultivated; it is bounded on the north by the Sierra *de Testeyro*, on the south by the Sierra *de Gerez*. The whole basin is in fact one of the most difficult and complex of the Peninsula; there are no plains in it; it is altogether rugged, rocky, sterile; even its climate is severe.

The *Minho* rises in the Sierra de Mondonedo, flows through a very diversified and thickly-peopled country; it washes Lugo, where the road to Coruña passes. The *Sil* rises in the Sierra de Peñamarella, flows through a very difficult country, wearing away in its course several mountain spurs which oppose its passage, and washes Ponferrada. The two rivers unite to the north of Orense; the Minho then penetrates the mountains that bar its course; it attains its lower basin, where it is again forced to cut out a passage for itself, enters a fertile and populous plain, forms the frontier between Spain and Portugal, washes Tuy, a Spanish stronghold, facing the Portuguese stronghold Valenza, and terminates between the two small fortresses Guardia and Caminha, after a course of from 140 to 150 miles.

3. The *Ulla* is a stream of no importance, one of whose tributaries runs by Santiago-of-Compostela, capital of Galicia.

Political Divisions.—The basin of the Duero, together with those of the Mondego, Minho, &c., comprises politically: 1, Old Castile, capital Burgos; 2, the Kingdom of Leon, capital Leon; 3, the southern part of Galicia, capital Santiago; 4, Entre Douro e Minho, capital Braga; 5, Tras os Montes, capital Bragança; 6, the greater part of Beira; 7, a small part of Portuguese Estremadura. In its upper part it belongs to the theatre of a war of invasion from the side of France, and it covers the centre of the Peninsula, first by the Sierras of Occa and Urbion, then by the first steppes of the plateau, and lastly by the heights of Guadarrama and Somo Sierra; in its lower part it belongs to the theatre of a war with Portugal, and protects that kingdom by means of the Duero and the spurs of the Sierra Estrella and of the Pyrenees.

Recapitulation of the Western Watershed.—As the defence of the Peninsula and its ordinary theatre of war are on the Continental Pyrenees and in the basin of the Ebro, the western watershed has no great military importance except in the event of a general invasion. Its conquest is difficult, on account of its divisions into four basins, which do not command one another, the directions of which are almost divergent, and which have few intercommunications. In its southern part, seeing that the French frontier is very distant, and the eastern watershed, with its great river, interposes, it has but little to fear; but such is not the case with its northern part, where, once the Pyrenees are surmounted, the enemy may penetrate to the very middle by an almost level country, turning, so to speak, the basin of the Ebro.

Under ordinary circumstances, strategic action in this watershed is confined to the mutual relations of the two states which divide it between them; but in this respect, Portugal, which looks like a mere conventional subdivision of the compact mass of Spain, is more favourably situated than the latter country. In fact, it deprives Spain of the mouths of three of its principal rivers, and of the only portion of their course where they are navigable; it separates its two extreme provinces Galicia and Andalusia, Ferrol and Cadiz; and, lastly, it possesses a very formidable natural frontier. This frontier, which seems so contrary to the laws of physical geography, is composed: 1, of the Sierras of Ourique and Estremoz, of the fortresses

which cover their flanks, and of the Guadiana which bathes their feet; 2, of the northern spurs of the Sierra de San Mamed and the southern spurs of the Sierra Estrella, which join at the Tagus, barely leaving a passage for the river, which is no longer a water-road, but an additional obstacle; they do not even allow of a direct road between Madrid and Lisbon; 3, of the Sierra Estrella and its spurs between the Coa and Agueda, covered with fortresses; 4, of the Ducro, having behind it a parallel spur detached from the chain between the Ducro and Minho; 5, of the spurs between the Sabor, the Tua, and the Tamega; 6, of the Minho. Thus the political frontier of Portugal resembles a long thick wall, with only a few breaches in it to permit the passage of foaming and rushing rivers. All this explains how this state has been formed, and how alone of all the kingdoms of the middle ages it has escaped absorption into the Spanish monarchy. The country is, moreover, almost destitute of agriculture and manufactures; there is not to be found in it a single road practicable for wheeled vehicles at all times; goods are conveyed on mule-back; the rivers have no bridges; they are dry in summer, and flood their banks in winter; whole districts are almost desert or uncultivated; an army could not exist in the land, and its conquest is very difficult. The French failed in three attempts to subdue it. In 1807 Junot invaded it by forced marches, following the course of the Tagus all across the mountains; but he got to Lisbon with very few troops, and was obliged to evacuate the country after the battle of Vimeiro. In 1809 Soult, at the head of a handful of heroes, entered Galicia, but he could not get farther than Oporto, and his masterly combinations failed before the general rising of the Portuguese and the superior forces of the British. In 1810 Massena entered by Almeida and Coimbra, but, checked by the lines of Torres Vedras, where he must have starved without having a chance of fighting, he effected his retreat by the same way.

§ V.—NORTHERN WATERSHED.

This watershed is formed by the northern side of the Atlantic Pyrenees, from Cape Finisterre to Figuier Point. It forms a

narrow band between the coast and the chain, the length of which is 300 miles, the breadth 40 miles.

Encircling Mountains.—The northern spurs of the Atlantic Pyrenees (*vide ante*, p. 80) are shorter and more abrupt than the southern; they plunge abruptly into the sea, giving the coast a very rugged character. The *Biscayan* or *Cantabrian Pyrenees* are mountains of the second order, alternately bare and wooded, showing small plateaus, furrowed by numerous streams. Their eastern part is called Sierra *de Aralar*, and is 6,560 feet high. We have already described the roads which cross the Galician and Asturian Pyrenees in the preceding basin; in the Biscayan Pyrenees we find the following: 1, from Burgos to Bilbao by Briviesca and Osma; 2, from Burgos by Miranda and Vittoria, the pass of Salinas, Tolosa, and Irún to Bayonne; this is the great road from Spain to France: it is now skirted by a railway; 3, from Pampeluna to Tolosa by the pass of Goritty.

General Aspect.—This watershed is very hilly, and has but very small plains. Its climate is moist and rather cold. It is with difficulty that the orange, the olive, or even the vine grow there; pastures and forests are the chief products of the soil, which is on the whole very well cultivated. To its physical constitution, the country is indebted for its active, industrious population, with its passionate love of independence. The Astures and Cantabri (Asturians and Basques) were the last to submit to the Romans; they remained free under the Moors, and they are the only Spaniards who have preserved their old franchises under the absolute dominion of the Austrians and Bourbons. The country lying between Santander and Burgos, Fuenterrabia and Pampeluna is the most populous and best cultivated in all the Peninsula; it is a hilly, rugged region, full of ravines, favourable to civil war, and constitutes a good barrier against France; but it is also a well-watered country, fertile in every product of the soil, abounding in woods, pastures, villages, and good roads.

Coast.—It is everywhere precipitous, very elevated, indented with numerous creeks and bays, and bristling with capes. The principal capes are: *Finisterre*, naval battles of 1747 and 1805, between the British and French; *Ortegal*, *Peñas*, *Machichaco*. It rears excellent sailors, who had a great reputation in the middle ages. We find the following good seaports: 1, Coruna, a forti-

fied town, and flourishing seaport, defended by four forts and some batteries; naval battles of 1748 and 1805; battle of 1809, which compelled the English to evacuate Spain; 2, FERROL, fortified town, the chief naval arsenal of Spain; magnificent harbour, defended by three ports, and only accessible by a canal two miles long; school of navigation;—3, SANTANDER, harbour defended by two castles, remarkable for a cannon foundry; it is connected with Valladolid by a railway;—4, SANTONA, fortified town, with an arsenal;—5, SAN SEBASTIAN, fortified town, with an indifferent harbour, which protects the road from France to Madrid; it was taken by the French in 1794, 1808, and 1823, and in 1813 by the British, who set it on fire. To the north of the town on the coast is Mont Orgullo, 8,530 feet high, on which is built the strong castle of La Mota;—6, LOS PASAGES, a safe and deep harbour, but difficult to enter; ships of war could take refuge here;—7, FUENTERRABIA, at the mouth of the Bidassoa, in former days strongly fortified; it played a conspicuous part in the wars betwixt France and Spain; its fortifications are now ruins, and its harbour is very indifferent.

Streams.—All the valleys of this watershed run from S. to N.E.; they are narrow and fertile, and traversed by numerous rapid and unnavigable streams:—

1. The *Nalon* has in its basin OVIEDO, capital of the Asturias.

2. The *Ria de Bilbao*, on which stands BILBAO, a rich commercial town, capital of Biscay, that played a conspicuous part in the last civil wars of Spain; and PORTUGALETE, a small harbour accessible to frigates.

3. The *Deba* is remarkable from having its source at the pass of Salinas, where the great road from France crosses and skirts this stream for some distance; it runs by BERGARA.

4. The *Orio* is skirted by this road from Villafranca to TOLOSA; one of its tributaries, the *Anezo*, rises at the pass of Goritty, by which the road from Pampeluna to Tolosa crosses.

5. The *Bidassoa* rises in the pass of Maya, runs from N. to S. in the valley of Bastan, washing first ELLISONDO and then ST. ESTEBAN, where it turns to the N.W.; it receives right and left streams of considerable size, whose valleys are very confusedly connected with one another. The French frontier approaches the river near the mountain *La Rhune* (2,886 feet),

a prominent and central position of this frontier, which covers the valley of the Nivelle, and was of importance in the operations of 1794 and 1813; between Berra and Biriatu this frontier touches the river and follows it to its mouth. Then, in Spain, the Bidassoa washes IRUN, the very important bridge of which belongs to the great Madrid road; on its right are some hills which were defended in 1794, the most remarkable of which as a position is the *Croix des Bouquets* (384 feet); it then passes between FUENTERRABIA on the left and ANDAYE on the right, and terminates opposite Figuier Point.

Political Divisions.—The northern watershed includes politically: 1, the northern part of GALICIA; 2, ASTURIAS, capital OVIEDO; 3, BISCAY, capital BILBAO; 4, GUIPUZCOA, capital SAN SEBASTIAN. It has no military importance except at the French frontier, against which it offers a very respectable defence in its mass of mountains, both slopes of which are in the possession of Spain, whilst France is quite open and has only a very irregularly and physically ill-defined frontier.

§ VI.—EASTERN WATERSHED.

It is formed: 1, by the eastern side of the series of sierras which crown the central plateau on the east, called the Iberian hills, from Cape Gata to the Sierra Reynosa; 2, by the southern side of the Atlantic Pyrenees, from the Sierra Reynosa to the pass of Goritty; 3, by the southern side of the Continental Pyrenees, from the pass of Goritty to Cape Creus. In shape it is a triangular space, the summit of which is at the Sierra Reynosa, and the base of which rests on the Mediterranean, from Cape Gata to Cape Creus, a length of 500 miles, the height of the triangle being about 300 miles. It includes three small basins and the basin of the Ebro.

Encircling Mountains.—1. The eastern slope of the Iberian hills are abrupt at the apex of the triangle, but elongated, difficult, and confused as the watershed widens; between the Segura, the Jucar, the Guadalaviar, and the Ebro there are thrown off from them long and stout branches torn by torrents which excavate deep valleys and flow through the most rugged places in the Peninsula. The most remarkable of these spurs comes from the Sierra Albaracin, and expands into considerable masses

in the basin of the Guadalaviar; it is a labyrinth of peaks and table-land, where it is impossible to follow a general direction and to establish a connection with certainty; it is crossed by the road from Valencia to Saragossa by Teruel. About Albaracin there is detached from this chaos on the S.E. a very complex sierra, which turns towards the N.E. in a long wall parallel to the coast, under the name of the Sierra *de Peñagolosa;* it runs straight upon the Ebro at Tortosa, barring its passage by uniting with a long symmetrical spur of the Eastern Pyrenees. All this country has been rendered famous by Suchet's campaign in 1810 and by the last civil wars in Spain.

2. The southern slopes of the Cantabrian Pyrenees, near the sources of the Ebro in the Sierra *Reynosa*, are wild and arid; but they are more open and fertile in the eastern part. We described their roads when treating of the northern watershed.

3. *The Continental Pyrenees* stretch along for 224 miles from Cape Creus to the Figuier Point; their greatest breadth, which is about their middle, is about 68 miles; towards either end it is not above 34 miles. They do not form a straight line, but a line broken about the middle of the chain by an almost rectangular elbow of 20 miles in depth. A vertical section of them represents in profile a kind of amphitheatre, the different steps of which are from 1,968 to 11,155 feet high. They fall in successive slopes towards the Atlantic and the Mediterranean; but the depression does not take place equally at both ends; in the eastern part the chain rises for 37 miles, runs in a tortuous course to the S.E. along the coast, throwing towards the coast very complex spurs and branches, and finally falls abruptly into the Mediterranean at Cape Creus.

The Pyrenees are mountains remarkable for their great thickness and for the complicated interlacement of their bases; this renders the passes by which this chain is crossed very winding and difficult. The main body of the Pyrenees is close, compact, arid, abrupt, covered with forests, snow, and ice; it contains a few glaciers, is completely uninhabitable, and possesses only a small number of verdure-clad plateaus; it is subject to very violent hurricanes and storms. The spurs are less wild, and form smiling and fertile valleys; at the middle of the chain they are given off at right angles, and at the extremities at acute angles;

those on the south, though longer than those on the north, have a more rapid declivity. Some are of considerable size and come down close to the Ebro, whose course they deflect. The most remarkable and longest runs to the east of the Segro, which it separates from the rivers running directly into the Mediterranean; it resembles a long wall parallel to the coast, and runs to form a junction with the last heights of the Sierra Peñagolosa over the Ebro; its passes are as difficult as those of the main chain.

The highest part of the Pyrenees is about the middle of the chain; it ranges from 9,184 to 9,840 feet; the lowest parts are at the ends, which fall to 2,624 and even 1,968 feet. The limit of perpetual snow is at 8,856 feet. The highest points do not belong to the water-parting, but are to be found on the southern spurs; they are the *Monte Maladeta* (11,424 feet), the *Pic Posets* (11,240 feet), and *Monte Perdido* (11,165 feet). But the Pyrenees are not only interesting on account of their height and size, they are so still more on account of their natural riches, their picturesque beauties, the historical events they have witnessed, their active and intelligent population, and their position between two states, whose mutual ramparts they form. They are naturally divided into *Western Pyrenees*, from the pass of Goritty to Monte Perdido, about the sources of the Gave of Pau and the Cinca; *Central Pyrenees*, from Monte Perdido to the Pic de Corlitte (9,581 feet), about the sources of the Ariége and the Segre; *Eastern Pyrenees*, from the Pic de Corlitte to Cape Creus. The name of *Albères* is given to that portion of the Eastern Pyrenees lying between the pass of Pertus and the pass of Banyuls.

The passes formed by depressions in the chain are very numerous, but very difficult, and most of them are impassable for carriages. There are upwards of 150 of them; but there are in truth but two carriage roads between France and Spain, that from Vittoria to Bayonne, and that from Figueras to Perpignan. Still, the greater number are practicable for infantry, and at the extremities of the chain there is not a path, however bad, that has not been pursued by detached bodies. The following are the principal passes:—

In the *Western Pyrenees:*

1. Road from Pampeluna to the Bidassoa by the *pass of*

Arraz, very bad. At Echalar it bifurcates, one branch going to Bayonne, and the other to Andaye.

2. Road from Pampeluna to Bayonne by the *pass of Belatte* in the great chain, and then by the *pass of Maya* in the branch between the Bidassoa and Nivelle; it is bad, but important on account of the valley of Bastan through which it runs by Ellisondo. The two passes belong to Spain, and the road does not enter France till it gains the Nivelle.

3. Road from Pampeluna by Zubiri, the *pass of Aldudes*, the valley of Baigorry to St. Jean Pied de Port; it is very bad, and passes through frightful ravines.

4. Road from Pampeluna by Zubiri, Roncesvalles and Orisson to St. Jean Pied de Port; it is better, but from Roncesvalles to Orisson it runs along the crest of the mountains. It was used in the campaign of 1813.

5. Road from Pampeluna by Zubiri, the *pass of Ibañetta* and the Val-Carlos to St. Jean Pied de Port.

6. Road from Sanguesa to St. Jean Pied de Port, by the *Port Lecumberry*.

7. From Jaca by the *port de Canfranc* (6,711 feet), Urdos and Portalet to Oleron. Works are being carried on here to make this a great road.

8. Road from Jaca to Lourdes by the *port de Cauterets*.

In the *Central Pyrenees* we only find paths impracticable for armies, which even smugglers find it difficult to follow. The principal go:—

1. From Venasque by the pass of the same name to Bagneres de Luchon; it is the most used.

2. From Rialp, by the *port de Salo* to St. Girons.

3. From Rialp, by the *port de Tabascain* to Tarascon.

4. From Urgel, by Andorra, the *port de Saldeou*, to Ax; it is the only path by which the valley of Andorra is approached.

5. From Puycerda, by the *pass of Puymoren* (6,298 feet), to Ax. Works are going on to make this a good road, which will put Toulouse in communication with the valley of the Segre.

In the *Eastern Pyrenees:*

1. Road from Urgel to Perpignan by Puycerda, the *col de la Perche* and Montlouis; it abounds in defiles, but the pass itself is broad, even, practicable for all arms, and is only three miles

long. It is a very important communication, by means of which one may descend either on the Segre, or by turning the Pyrenees, on the Ter.

2. Road from Campredon to Perpignan by the *col des Aires*, Pratz de Mollo and Le Boulou.

3. Road from San Lorenzo de la Muga by the *col de Costouge* to St. Laurent de la Cerda. It was by this route that the Spaniards crossed the Pyrenees in 1793.

4. Road from Figueras to Perpignan by La Jonquera, the *col de Pertus*, Fort Bellegarde and Le Boulou; it is the great eastern road. From La Jonquera there runs to the west another less frequented pass, that of *Portell*, which also leads to Le Boulou; it turns the great road to Bellegarde, and it was by it that the Spaniards invaded Roussillon in 1793.

5. *Col de Carbassera*, an ancient Roman road, running from Illiberis (Elne) to El Ampurdan. At the present day it is scarcely practicable.

6. *Col de la Massane* (3,264 feet), from Espolla to Argeles; passed by the French in 1285.

7. *Col de Banyuls*, from Espolla to Banyuls, and thence to Port Vendres; very rugged and full of obstacles; used by the French and Spaniards in 1793 and 1794.

8. *Col de Belistre*, from Rosas to Port Vendres, along the coast; it is almost impassable, on account of the offshoots of the Pyrenees, which spread all over the shore.

Communications parallel to the crest of the Pyrenees are impossible, owing to the great size of their spurs. The nearest on the south side goes from Pampeluna by Barbastro and Lerida to Barcelona. Spain cannot therefore be invaded on a continuous line; and as, owing to the want of roads, it cannot be penetrated by the middle of the chain, invading armies can only act by the great western and eastern roads. The western one seems the easiest, because it has few fortresses; but the invader has the Atlantic Pyrenees on his flank, where he may be pinned up in the defiles of the Ebro. On the east we find a quadruple line of fortresses, covered by tortuous streams and a large river; and by that route it is not the centre of the peninsula, but only the regions bordering on the Mediterranean, that are reached. It would be imprudent to attempt to penetrate by both roads at

once, for they converge on Madrid only, and are separated by vast tracks of country and all sorts of obstacles. The invasion should be made by one road, while the invader is content to watch the other. It is impossible to penetrate by the middle of the chain in the present state of the passes. Napoleon dared not attempt it, but he contemplated the annihilation of the Pyrenees by the construction of a great road through their middle. In that case an invading army might penetrate directly by the centre upon Saragossa, and two armies of observation could have sufficed to mask the strongholds on the east and west.

Aspect of the Country.—The eastern watershed, open to the genial influences of the Mediterranean, protected from the northern winds by the Pyrenees, is the most generally fertile and cultivated part of the Peninsula. The head (Navarre) is, with the exception of the populous and fertile valleys of Alava, occupied by some parameras which terminate the great plateau, and by the rugged, wild, and poor country of the Pyrenees. The centre (Aragon) is one of the uncultivated and ill-peopled parts of Spain. The works undertaken by the Arabs for the purpose of fertilizing and irrigating the country have been abandoned; 345 ruined towns may be counted, and there are 145 more the names of which only remain.* The roads are rare, difficult, and due to nature only; they are either bogs or ravines, bristling with rocks; they have no bridges. The lower part of the basin, on the other hand, is admirably cultivated. Valencia and Murcia are the richest provinces of Spain. Catalonia is the busiest and most civilized part. It also possesses the best military organization: in the first place, by the difficulties which its mountains and streams oppose to the operations of an army; secondly, by the large number and advantageous positions of its fortresses; lastly, by the warlike character of its inhabitants.

Coast.—It possesses only shallow indentations, is bordered alternately with sand and rocks, and in some places with salt-water lagoons. Its most remarkable projections are: Capes *Gata*, *Palos*, *San Martin*, and *Creus*. Its principal seaports are: 1, CARTHAGENA (Carthago Nova), the best in Spain, and one of the three military ports, a fortified town at the head of a small gulf

* One-tenth of the towns of Spain have disappeared, the total number being 1,141; as for the number of ruined towns, it is almost incalculable.

closed by an island;—2, ALICANTE, a commercial town, with a spacious roadstead and a strong citadel; a railway connects it with Madrid;—3, PENISCOLA, a fortified town situated on a rock inaccessible from the sea, taken by the French in 1811;—4, TARRAGONA (Tarraco), a fortified town, the most flourishing in Spain under the Romans; it has stood many sieges, the most celebrated of which is that of 1811, by the French;—5, BARCELONA (Barcino), a fortified town, capital of Catalonia, with a fine harbour, principally defended by the fort of Montjoui; it is the most manufacturing town in Spain. Population, 252,000; taken by the French in 1698 and 1808, by the English in 1705, by Philip V. in 1711, &c.;—6, BADALONA, a small port, where the Archduke Charles landed in 1704;—7, MATARO, an ancient stronghold;—8, PALAMOS, defended by a strong castle;—9, ROSAS, a small town at the head of a good roadstead, formerly defended by a citadel and a fort, now dismantled; taken by the French in 1645, 1693, 1704, 1794, and 1808. A highway connects all these seaports as far as Barcelona, thence it goes to join the road from Figueras to Perpignan.

Rivers on the right of the Ebro.—1. The *Segura* rises in the Sierra de Sagra, flows from the N.W. to the S.E., at first in a hilly and desert country, then through fertile plains; it washes: MURCIA, capital of the province of that name; population, 110,000;—ORIHUELA, a town already celebrated in the days of the Carthagenians, and defended by a castle. It terminates betwixt Capes Cervera and Santa Pola, after a course of 140 miles, during which it receives on the right the *Madera*, and on the left the *Sangonera*.

2. The *Jucar* rises in the Sierra Albaracin, and flows from N.W. to S.E., past CUENÇA; it skirts the eastern slopes of the great plateau, with which its basin becomes confounded, receives a tributary, the *Cabriel*, a very tortuous stream, crossed by many ravines, fertilizes rich plains by means of irrigation canals, and terminates, after a course of 174 miles, near the lake Albufera, or tidal lake of Valencia. In the chaos of mountains separating this river from the preceding one, lies ALMANZA, renowned for the victory of the French in 1707, and where the railways from Alicante and Valencia to Madrid meet.

3. The *Guadalaviar* rises in the Sierra Albaracin, flows from N.W. to S.E., through a country hideously rugged and

abounding in deep ravines, where it washes TERUEL; it then fertilizes five plains by means of irrigation canals, and washes VALENCIA, capital of the province of the same name, with a population of 145,000, whence a railway runs to Madrid; taken by the French in 1811. It terminates at GRAO, a small port, after a course of 125 miles.

4. The *Palencia* contains in its basin SEGORBE; battle of 1811, won by Suchet; it washes MURVIEDRO, situated on the road from Valencia to Tortosa, near the ruins of SAGUNTUM, with a castle on an isolated rock, which the French took in 1811, after the battle of Sagonte (Saguntum), gained by Suchet over the Spaniards.

Course of the Ebro.—This river (*Iberus*) rises in the Sierra Reynosa, flows S.E., through the last narrow plains of the great plateau, increases in volume in these deserts by the afflux of short deep streams; it enters into a basin, bounded on one side by the mountains encircling the great plateau, on the other side by the spurs of the Pyrenees; it washes MIRANDA (2,509 feet), important for the road from Bayonne to Madrid, and pierces several spurs which block its course; the most remarkable is an enormous wall, the *Pancorbo*, the only pass through which for the great road is a winding fissure ten paces wide: this defile, defended by a castle, protects the entrance to the great plateau, but it can be turned. The river, freed at HARO from the last of the obstructing hills, flows in a wider and smoother channel to Logrono, road from Pampeluna to Burgos, and washes TUDELA (battle of 1808, where Lannes defeated the Spaniards). Below this town the Imperial canal begins, the only hydraulic work in Spain, which skirts the right of the Ebro, and irrigates a portion of the country. Thence the river, now navigable, reaches SARAGOSSA, capital of Aragon, with a population of 82,000 (battle of 1710, where Philip V. was beaten by the Austrians, and memorable for the siege of 1809 by the French). It then flows past MEQUINENZA, a fortified town, taken by the French in 1810, and again its course is interrupted by numerous obstacles as far as TORTOSA. The country between these two towns is so rough, that the only ways for man and water through it have been been opened up by the force of the elements and laborious works. This chaos is produced by the spurs of the Pyrenees, and the Sierra

Peñagolosa, which force the river to run through a deep and very tortuous ravine, and seem to seek to prevent it getting to the sea. It flows in this way past Jerta, where the defile of *Las Armas*, one of the most formidable in Spain, commences. Finally, it surmounts the last obstacles at TORTOSA, a fortified town, taken by the French in 1649 and 1810, and falls into the sea below AMPOSTA, where it has accumulated such great deposits of soil, as to necessitate the digging of a canal to allow vessels to get up to the town. The length of the Ebro's course is 300 miles.

Tributaries on the Right.—The affluents flow through a country mostly arid, desert, treeless, uncultivated, and furrowed with ravines that are dry one half of the year. Scarcely any verdure is to be seen, except on the narrow slip of land bordering the Ebro.

1. The *Jalon* rises in the Sierra Siguenza, flows through a very hilly country, washes CALATAYUD, a town built by the Moors on the ruins of the ancient Bilbilis; shortly before this it receives the *Jiloca*, a large tributary which rises in from the Sierra de Albaracin, and passes Daroca; in the upper part of its course it is skirted by the road from Madrid to Saragossa; it terminates at Alagon.

2. The *Huerba* flows near MARIA (battle of 1809, where Suchet beat the Spaniards) and ends at Saragossa.

3. The *Almonacid* runs by BELCHITE (battle of 1809, where Suchet beat the Spaniards).

4. The *Guadalupe* rises in the Sierra de Espadan, and washes ALCANIZ; it receives a tributary which flows near MORELLA, a small town defended by a strong castle, situated in a very hilly country, and celebrated in the last civil wars of Spain.

Tributaries on the Left.—1. A torrent near the source of the Ebro runs by ESPINOZA, where, in 1808, the French defeated the Spaniards. This victory, together with that at Tudela, gave Napoleon the command of the upper Ebro and the road to Madrid.

2. The *Zadorra* runs by VITTORIA, an important town situated on the road and the railway from Madrid to Bayonne, in a mountain gully, where Joseph was defeated by the English in 1813, in a battle which compelled the French to evacuate the Peninsula.

3. The *Aragon* rises in the Pyrenees, washes JACA, a bad advanced fortress, and receives the *Irati*, which rises in the pass of Canfranc; washes SANGUESA and receives the *Arga*, which washes PAMPELUNA (Pompelo), fortified town, capital of Navarre, the centre of the defence of the western Pyrenees; it terminates near ALFARO.

4. The *Gallego* rises in the Pyrenees, is skirted by the road from Jaca to Saragossa, and ends near the latter town.

5. The *Segre* (Sicoris) rises in the Col de la Perche. Its basin, almost entirely covered with mountains, is very wide on the right and very narrow on the left, where it is hemmed in by the large spur called *Segre Mountains*. This spur is nearly as high as the chain of the Pyrenees, and all its passes are very difficult: the most remarkable is that of *Tosas*, which leads from Puycerda to Planolas; it will be the route from Toulouse to Barcelona when the Col de Puymoren is made practicable for carriages. The Segre flows through a very deep ravine, and washes PUYCERDA, capital of Spanish Cerdana, a little country containing 114 towns and villages; it was formerly very strongly fortified, but is now a mere badly walled town. It next washes BELVER, a large town celebrated in the campaign of 1794, runs through the very difficult defile of *Monteilla*, reaches SEO DE URGEL, a town situated in a very fertile gully at the confluence of the Balira; taken by the French in 1691 and razed to the ground; at present defended by three forts in the neighbourhood; it then runs by BALAGUER, defended by a strong castle; LERIDA, a very strong town, with a citadel, centre of the defence of the basin of the Segre, besieged by Condé in 1647, taken by the French in 1707 and 1810. It ends at MEQUINENZA. This river, which runs through a long defile, is liable to sudden and very violent floods. It receives: 1, the *Carol*, a torrent that flows through a ravine 10 miles long by $\frac{1}{4}$ mile broad, very important on account of the Col de Puymoren; 2, the *Balira*, which runs through the valley of Andorra, a small independent state, 17 miles long by 25 miles broad, under the protection of France, whose privileges date from Louis the Debonnair; its territory has been respected in every war; 3, the *Noguera-Pallarese*, which washes RIALP; 4, the *Noguera-Ribagorzana*, which ends below Lerida; 5, the *Cinca*, a large,

rapid stream, which washes BIELSA, BARBASTRO, and MONZON (treaty of 1626); it is augmented by the *Essera*, the *Alcandra*, and several other streams rising from the central chain; the very difficult passes that open into its basin are only defended by the bad castle of VENASQUE on the Essera. The Segre is an essentially military river, chiefly on account of its direction; it looks as if it were a way provided by nature for turning the rivers of Catalonia, which run directly into the sea; but it is a very dangerous way, on account of the narrowness of the valley, its ever recurring defiles, and the facilities it offers for defence. This is proved by the campaigns of Scipio, of Cæsar, and of the French in 1646, 1691, 1794, &c.

In a military point of view the Ebro is the most important river in the Peninsula, because, as it bars all the valleys of the Pyrenees, it acts, so to speak, as the ditch to this enormous rampart; but it can easily be turned by the road from Bayonne to Madrid. Still it has played a great part in every war; the Romans, once masters of this river, held the strong and warlike country lying under the Pyrenees, and before penetrating into the chaos of central Spain they sought to obtain a position adjoining the great rivers of the western watershed, before advancing step by step in all directions radiating from this position. Napoleon took possession of the basin of the Ebro as a preliminary step to the conquest of Spain; in fact, he designed adding all the southern slope of the Pyrenees to his empire, knowing that thus he would keep the remainder of the Peninsula disarmed and at his mercy.

Streams north of the Ebro.—1. The *Francolí* runs near VALS (battle of 1808, won by Saint-Cyr over the Spaniards), and ends at Tarragona.

2. The *Llobregat*, a considerable stream that rises in the Segre mountains, and flows through a very hilly valley, where its course is often deflected by the spurs of the hills; it washes MOLINS DEL REY (battle of 1808, gained by Saint-Cyr over the Spaniards), and ends south of Barcelona. It receives the *Cardonet*, a rapid stream of similar character, which washes CARDONA, a small town with a strong castle, called by the Catalans "the refuge for times of misfortune." The basin of the Llobregat contains the most difficult part of Catalonia; it is regarded as its interior retrenchment.

3. The *Tordera* washes HOSTALRICH, a fortified town, on the road from Figueras to Barcelona. One of its tributaries runs near LLINAS, where Saint-Cyr defeated the Spaniards in 1808.

4. The *Ter* rises from the Col des Aires, and washes CAMPREDON, a small town formerly strongly fortified, now reduced to a mere wall; it receives a tributary which flows near Ripoll, celebrated for its manufactory of arms, passes by VICH, washes GERONA, a half-ruined fortress at the foot of a ravine that crosses the road to Perpignan, defended by fortified mountains all around it; it was taken in 1494 and in 1809 by the French after a siege as horrible as that of Saragossa. The Ter then flows along a dead level, and forms very unwholesome marshes. Its valley is of great importance for turning the Tech in France; it constitutes a large portion of the *Ampurdan*, a country of mountains and marshes, celebrated in all military operations, and the very counterpart of Roussillon.

The *Fluvia* washes OLOT, a military post; CASTELFOLLIT, formerly a fortified town, that has stood several sieges; BASCARA, engagement of 1795. It is the best line of defence of Catalonia, because it is protected in front by the marshes of the Ampurdan, and in rear by the mountains of the Ter. A battle was fought on its banks in 1795.

6. The *Llobregat*, a torrent that rises at the Col de Pertus, and gathers all the waters of the Pyrenees; it terminates in the pestilential marshes near AMPURIAS (Emporiæ), a town with a population of 100,000 in the time of the Romans; now a wretched hamlet. Forty-seven bridle-roads or footpaths lead into its basin. It receives: 1, the *Muga*, which flows by SAN LORENZ (battle of 1794, gained by the French over the Spaniards); 2, the *Manol*, which flows by Figueras, a fortified town, the centre of defence of the Eastern Pyrenees, having for its chief work the castle of SAN FERNANDO, the largest fortification in the Peninsula, capable of containing 6,000 defenders; taken by the French in 1794 and 1811. The famous *lines of Figueras* were in the small chain betwixt the Manol and Muga, and in the basin of the Llobregat as far as Espolla, and there was fought the battle of 1794.*

* For the details, see the excellent work of Mr. Fervel: *Campagnes de la Révolution dans les Pyrénées Orientales.*

The small basins which we have just described constitute a great part of CATALONIA, the most military province of Spain, and which is considered to be its *place of arms*. This country is a confused conglomeration of mountains, between which wind deep, narrow, and precipitous ravines, twisting and turning in every direction; the rivers there are mountain torrents without bridges, almost impossible to be turned; there are numerous fortresses, and almost all the villages are built of stone on heights, and surrounded with defensive walls; the inhabitants are keen for fighting, trained to arms, passionately fond of their independence, and the tocsin of war is enough to make them all rise to a man; finally, the country is little susceptible of cultivation, and offers few resources in food and forage. Thus everything in Catalonia is adapted for war. There is no country in Europe where there is a greater wealth of means of resistance; and hence the history of this province is a repetition of struggles, rebellions, and fights of all kinds.

Political Divisions.—The eastern watershed includes politically: 1, the northern part of OLD CASTILE; 2, NAVARRE, capital PAMPELUNA; 3, ARAGON, capital SARAGOSSA; 4, the eastern part of NEW CASTILE; 5, CATALONIA, capital BARCELONA; 6, the kingdom of VALENCIA, capital VALENCIA; 7, the kingdom of MURCIA, capital MURCIA.

§ VII.—BALEARIC ISLANDS.

In the Mediterranean, not far from the coast of Valencia, lies a group of islands, which, by their geographical position and their geological formation, belong to Spain. Their soil is hilly and arid; agriculture there is in its infancy; the inhabitants are in a condition of misery, and ignorance bordering on the savage state; the population does not exceed 180,000. There are three principal islands: *Ibiza*, *Majorca*, and *Minorca*, and several smaller islets: *Formentera*, *Cabrera*, &c.

Ibiza (Ebusus) is 55 miles in circumstance, and has a town of the same name.

Majorca, or Mallorca (Major), is 124 miles in circumference, and its capital is PALMA, a fortified town, with a good harbour.

Minorca, or Menorca (Minor), is 94 miles in circumference,

58916

and its capital is MAHON, a fortified town, one of the best ports in Europe, with an arsenal, naval magazines, &c. It is one of the important stations of the Mediterranean. It was captured by the English in 1708, they held it until 1756, when it was taken from them by the French; it was restored to the English in 1763; taken from them in 1782; recovered in 1798; and restored to Spain in 1814.

Formentera (Ophiusa) very fertile; no town.

Cabrera, a rock tenanted by goats, memorable for the sufferings of the French prisoners who were sent there during the war from 1808 to 1814, and almost all died of starvation; only a few years since their bones were still scattered over the ground. A monument has been erected to their memory.

§ VIII.—THE AZORES, OR WESTERN ISLANDS.

This archipelago, though situated in the Atlantic Ocean at more than 497 miles distance from the Spanish coast, must be regarded as belonging to the Peninsula, which is the part of the continent nearest to it. It was discovered in 1432 by the Portuguese, who colonized it, and under whose dominion it has remained. It comprises nine very fertile, hilly, volcanic islands, with a population of 250,000. The principal is *Terceira*, whose capital is ANGRA, a good port, well fortified. The others are: *San Michael*, whose capital, PONTA DELGADA, is the chief town of the Azores; *Fayal*, which contains the best harbour in the archipelago; *Pico*, *St. Mary*, *St. George*, *Corvo*, *Graciosa*, and *Flores*.

§ XIX.—STATISTICS.

KINGDOM OF SPAIN.

Superficies.	Population.	Army.	Navy.	Revenue.	External Possessions.
182,555 sq. m.	16,302,000 — Colonies. 4,728,000	234,000 m. and 21,000 h.	28 sailing vessels, 93 steam vessels, 24,000 m.	£28,639,168 — Debt. £271,850,038	In AFRICA: Tetuan, the Presidios, Guinea Islands, Canary Islands; in the PACIFIC: Philippine Islands; Marianne Islands; in AMERICA: Cuba, Porto-Rico, and the Spanish Virgin Islands.

KINGDOM OF PORTUGAL.

Superficies.	Population.	Army.	Navy.	Revenue.	External Possessions.
35,637 sq. m.	4,351,000 — Colonies. 3,810,000	24,946 m. and 2,278 h.	36 vessels, 330 guns, 3,278 m.	£3,597,610 — Debt. £42,985,137	In AFRICA: Madeira, the Cape-Verde Islands, St. Thomas and Principe, Angola, Congo, and Mozambique; in ASIA: Goa, Diu, Dillé, Macao, &c.

CHAPTER III.

FRENCH REGION.

§ I.—GENERAL IDEAS.

THIS region, called *Gaul* by the ancients, the greater part of which now bears the name of FRANCE, is bounded on the south by the Mediterranean and the Continental Pyrenees, on the west by the Bay of Biscay, on the north by the English Channel and the German Ocean, on the east by the Rhine from its mouth to its source, and by the Alps from Mont St. Gothard to the Mediterranean. It lies between N. lat. 24° 16′ at Cape Creus, and 51° 57′ at the mouth of the Lech, and between W. long. 4° 51′ at Cape St. Mathieu, and E. long. 9° 5′ about the sources of the Upper Rhine. It has the figure of a pentagon, the S.E. side of which rests on the Mediterranean, 260 miles long, the S.W. side on the Pyrenees, 225 miles long, the W. side on the Bay of Biscay, 500 miles long, the N. side on the English Channel and the German Ocean, 560 miles long, lastly, the E. side on the Rhine and the Alps, 900 miles long. Total length of the sea-board, 1,320 miles, and of the continental sides, 1,125 miles. Length of the diagonal drawn from Cape St. Mathieu to the Lake of Constance, 570 miles; length of the diagonal, drawn from the mouth of the Bidassoa to that of the Lech, 650 miles.

In its totality Gaul has not a very grand aspect, except at the

S.W. and S.E., where it is bounded by the highest mountains of the Pyrenees and Alps. Its internal mountain system is not great; the conjunction of two great ranges, it displays neither long chains nor vast groups; nowhere does it throw up peaks covered with perpetual snow, but it stretches out and ramifies in every direction, either in the form of gently sloping and rounded hills, or of broad and fertile heights, encircling rich valleys pleasantly diversified, where the waters flow abundantly and without interruption in channels of no great depth, and easily navigable. A region so vast, washed by seas, bounded by high mountains, traversed by great rivers, must have a very varied temperature, though it is, as a rule, the most moderate in Europe, and very diverse products, the most renowned of which are wines, cereals, oils, woods, metals, mineral waters, &c. A soil so favourable to agriculture, manufactures, and commerce, not only by the abundance and the diversity of its productions, but also by the great number and the facility of communications, a mild and healthy climate, a great extent of coast, a line of contact with the whole breadth of the continent, an admirable position betwixt two seas, in the centre of Europe proper, that is to say, of southern and civilized Europe; finally the character of the inhabitants, who, more than any other modern people, have the spirit of sociability, and who seem to have been for fifteen centuries providentially charged with the mission of progress: all these advantages have made France the heart of the world. "It would appear," says Strabo, "as if a tutelary deity had raised these chains of mountains, approximated these seas, traced and directed the course of so many rivers, in order to make Gaul one day the most flourishing part of the globe." Movement and life issue forth from her; the various modes of civilization of other peoples are united in her; agricultural and commercial, warlike by land and sea, artistic and scientific, she is not exclusive or special, but universal like her language, the most logical of modern idioms, and through which it would almost seem ideas must pass in order to obtain currency. But it is not only in the domain of thought that she rules Europe; she likewise often sways it by her arms, and her central position renders her well adapted to offensive war; on the south she holds the Spanish and Italian peninsulas like two satellites naturally dis-

posed to follow her movements; by the Mediterranean she borders on Africa, and takes part in the affairs of the East; on the west the Atlantic offers its vast bosom to her vessels to connect her with the New World; on the north she adjoins England, protected from her by the Strait of Dover; lastly, on the east she is only separated from the German countries by the Rhine, a trench that has been crossed so often by her armies.

The line of water-parting of Gaul runs in a very tortuous manner from S.W. to N.E.; from the Pic de Corlitte in the Pyrenees to Mont St. Gothard in the Central Alps; it includes first the fractured mass of the Cévennes, becomes lower and flatter in the hills of the Lyonnais, Charolais, and the Côte d'Or, quits its primary direction in order to run from west to east in the high plains that form the table-lands of Langres and Faucilles; then it rises up from N.E. to S.W. in the wall of the Jura, lengthens out in gentle slopes from west to east by the Jorat, and finally bursts up in lofty peaks from the Bernese Oberland to the Central Alps.

This long series of heights divides Gaul into two quite distinct parts: the eastern part, narrow at the north, broad at the south is very mountainous, and comprises the basin of the Rhone, deep and hemmed in by a well-marked range of heights; the western part, broad at the north, narrow at the south, is almost all flat, especially towards the Atlantic, and comprises the basins of the Garonne, Loire, Seine, and Rhine, separated from one another by lines of insignificant heights. Thus Gaul is divided into four watersheds: 1, of the Atlantic Ocean, or S.W., including the basins of the Garonne and Loire, with the secondary basins of the Adour, Charente, &c.; 2, of the English Channel, or N.W., including the basin of the Seine, with the secondary basins of the Somme, Orne, &c.; 3, of the Mediterranean, or south, including the basin of the Rhone, with the secondary basins of the Tech, Tet, Aude, Var, &c.; 4, of the German Ocean, or N.E., including the basin of the Rhine (left bank), with the secondary basin of the Escaut or Scheldt. We may add the northern watershed of the Pyrenees, formed of a part of the first and third watersheds, in order to describe at one stroke the S.W. frontier of France.

§ II.—HISTORY OF THE GEOGRAPHY OF GAUL.

In the most ancient times Gaul was inhabited by three different races, divided into a multitude of independent, federated, or hostile tribes; these were the *Aquitani*, in the south, of Iberian race; the *Galli*, or *Celtæ*, in the centre, of Gallic race; the *Belgæ* in the north, of German race.* Some Greek colonies were established on the shores of the Mediterranean; the most celebrated, *Massilia* (Marseilles), invited the Romans into Gaul. They conquered all the basin of the lower Rhone, out of which they made their *Provincia*, interfered in the quarrels of the Gauls, and ended by subjugating the whole country about the beginning of the Christian era. On becoming an integral part of the Roman empire, Gaul was divided under Augustus into four provinces, under Probus into seven, under Diocletian into twelve, under Valentinian into fourteen, and finally, under Gratian into seventeen, the names of which we give in the subjoined table, page 112.

Three barbarian peoples established themselves in Gaul: the *Franks* in the north, between the Rhine and the Loire; the *Burgundians* in the east, in the basin of the Rhone; the *Visigoths* in the south, from the Loire to the Pyrenees. The Franks overthrew the states of the Burgundians and Visigoths, and extended their dominion over all Gaul, which was then divided confusedly into four principal parts:—1, *Neustria*, or Western country, between the Loire, the Atlantic, the Escaut, and the Meuse; one part was independent and was never occupied by the Barbarians, *viz.* the Armorican Peninsula or *Brittany;* 2, *Austrasia*, or Eastern country, from the Meuse and Escaut to beyond the Rhine; 3, *Burgundy*, in the basins of the Rhone and Upper Rhine, possessed alternately by the kings of Neustria and Austrasia; 4, *Aquitaine*, from the Loire to the Pyrenees, divided very oddly and capriciously by the Franks, who never established themselves permanently in it; two parts were independent, one on the S.W., occupied by the Vascons, who gave it the name of *Gascony;* the other on the S.E., governed by the Visigoths, and called *Septimania* (Narbonnaise première, Languedoc).

* See the table of the people of Gaul, p. 112.

In the seventh century the Franks of Austrasia overthrew the power of the Franks of Neustria, conquered all Gaul, extended their dominion into Germany as far as the Elbe and Danube; into Italy as far as the Volturno; into Spain as far as the Ebro; and founded a great empire, which lasted only forty-three years. After long wars among the three principal people composing it, the *Western Franks*, who began to be called *French;* the *Eastern Franks*, on whom the names of *Teutons, Germans, Allemans*, was bestowed; and finally, the *Italians;* a separation was effected in 843, and Gaul was divided into two states:—1, *France*, comprised between the Atlantic, the Pyrenees, the Mediterranean, the Rhone, the Saone, the Meuse, and the Escaut. This the nucleus of ancient Gaul strove incessantly to reoccupy its natural limits, but could never do so until quite lately, and then only for a short period (from 1797 to 1814); 2, *Lotharingia*, a long strip of territory between the Rhine and the Alps on the one hand, the Escaut, Meuse, Saone, and Rhone on the other, curiously indented and hemmed in by the kingdoms of France and Germany, an everlasting object of quarrel among them, incapable of ever being nationalized or independent; finally, a state so badly constituted physically, that it had no other name but that of its sovereign (Lothaire), and soon split into two kingdoms, *Lotharingia* or *Lorraine*, between the Meuse and Rhine, and *Provence*, between the Rhone and Alps. These two kingdoms continued for two centuries; in 1033, they were united to the German Roman Empire; but this union was fictitious, for feudal states had been established there, whose sovereigns were really independent of the emperors, who assumed the empty titles of kings of Lorraine and Provence. The chief of these states were: in Lorraine, the duchies of Low Lorraine or Brabant, High Lorraine, or Lorraine properly so called, Cleves, Juliers, Luxemburg, Limburg, Gueldres, the counties of Namur, Hainault, Alsace, the Palatinate, the sovereign bishoprics of Liege, Treves, Cologne, Mayence, &c.; in Provence, the counties of Provence, Savoy, Burgundy, Viennois, &c.

A similar feudal subdivision had taken place in the kingdom of France: there were formed in the south, the counties of Toulouse, Foix, Rhodez, Angoulême, Poitiers, the duchies of Septimanie, Gascony, Aquitaine, &c., which were themselves again divided into a multitude of small states, such as the

dauphiny of Auvergne, the seigneury of Montpellier, the viscounties of Béarn, Carcasonne, &c.; on the north were the counties of Flanders, Vermandois, Champagne, Anjou, the duchies of France, Normandy, Brittany, Burgundy, &c.; so that the kings possessed merely a title without any territorial power.* Then one of the great vassals, Hugh Capet, Duke of France, Count of Paris and Orleans, deprived them of this empty title, and his successors took advantage of the admirable position of their little state in the basin of the Seine, to unite all the other states, not only of the France of 843, but also of ancient Gaul, round this central country, at that time alone bearing the name of France, though the geographical writers of the sixteenth century improperly call it *Isle of France;* a country hemmed in on the west and east by Normandy and Champagne, which pressed upon Paris; but stretching out on the north by Laon and Reims, on the south by Etampes and Orleans. Then began the grand work of unification, which after eight centuries, is not yet complete. The following is a tabular view of it:—

1068	Gatinais	Acquired by Philip I. from Foulques, Count of Anjou.
1082	French Vexin	Acquired by Philip I. from Simon, Count of Valois, who became a monk.
1100	Viscounty of Bourges . . .	Purchased by Philip I. from Count Herpin, who went to the Crusades.
1183	Vermandois and Amienois. .	Acquired by Philip Augustus from Alienor, heiress of this count, for the assistance he rendered her against Philip, Count of Flanders.
1185	Valois	Acquired by Philip Augustus from the same person and for the same reason.
1203	Touraine, Anjou, Maine, Poitou	Confiscated by Philip Augustus from John Lackland, and annexed by Louis IX. in 1258.
	Saintonge	Confiscated by Philip Augustus from John Lackland, ceded to the English by the treaty of Bretigny, conquered by Charles V. and Charles VII.
1205	Normandy	Confiscated by Philip Augustus from John Lackland.
1209	County of Auvergne . . .	Won by conquest by Philip Augustus from Count Guy II., was afterwards given as an appanage, and was definitively united to the crown under Louis XIII.
1219	County of Alençon . . .	Acquired by Philip Augustus on the family of the counts becoming extinct.
1229	Viscounty of Beziers, Duchy of Narbonne, Viscounty of Nimes, Velay, Albigeois . .	Acquired by St. Louis after the Albigensian war.
1233	Counties of Blois and Chartres	Purchased by St. Louis from Thibaut, Count of Champagne.
1255	Gévaudan	Acquired by St. Louis from the Count of Barcelona, confirmed by the cession of the Bishopric of Mende to Philip IV. in 1306.
1257	Perche	Acquired by St. Louis on the family of the counts becoming extinct.
1270	Languedoc, Vivarais, Rouergue	Annexed by Philip III. on the house of St. Gilles becoming extinct.

* See the table, p. 112.

1285	Champagne and Brie	Acquired by Philip IV. through his marriage with the heiress of the Thibauts.
1295	Lyonnais	Acquired by Philip IV. by an agreement with the archbishop and burgesses of Lyons.
1349	Dauphiny	Purchased by Philip VI. from the last Dauphin of Viennois.
1370	Limousin	Got by conquest by Charles V. from the English. The viscounty of Limoges was added under Henry IV.
1453	Guienne and Gascony	Got by conquest by Charles VII. from the English.
1479	Burgundy	Annexed by Louis XI. after the death of Charles the Bold.
	Marche	Confiscated by Louis XI. from the house of Armagnac.
1487	Provence	Annexed by Louis XI. after the death of the last count.
1523	Angoumois, Forez, and Beaujolais	Patrimony of Francis I.
1531	Bourbonnais, Dauphiny of Auvergne	Confiscated from the Constable of Bourbon.
1547	Brittany	Acquired by the marriages of Charles VIII. and Louis XII. with Anne of Brittany, and by that of Francis I. with her daughter.
1548	Comminges	Annexed on the family of the counts becoming extinct.
1552	Three Bishoprics	Conquest of Henry II., which was not legalized till 1648.
1589	Bearn, Navarre, Bigorre, Foix, and Armagnac	Patrimony of Henry IV.
1601	Bresse and Bugey	Exchanged with the Duke of Savoy for the marquisate of Saluzzo.
1648	Alsace	Conquest of Louis XIII. and Louis XIV., legalized by the treaty of Westphalia.
1659	Roussillon, Artois	Conquest of Louis XIII. and Louis XIV., legalized by the treaty of the Pyrenees.
1665	Nivernais	Annexed after the death of the last duke.
1668	Flanders and Hainault	Conquest of Louis XIV., legalized by the treaty of Aix-la-Chapelle.
1678	Franche Comté	Conquest of Louis XIV., legalized by the treaty of Nimeguen.
1681	Strasburg	Conquest of Louis XIV., legalized by the treaty of Riswick.
1684	Charolais	Confiscated from the Austrian house of Spain.
1766	Lorraine	Acquired by Louis XV. according to the stipulations of the treaty of Vienna.

All these additions had failed to make France a very compact power; it was not so much a state as an agglomeration of states without mutual connection, of different origin and with diverse interests, differently governed, some having privileges and enjoying local liberties, others governed arbitrarily and without control. In order to give unity to all these members and to make a single body of so many distinct provinces, it was necessary not only to bring them under the same legislation and under a single government, but also to destroy their very names and to give them new ones derived from physical circumstances, and not reminding them of their independent existence. This was one of the first and most important acts of the Revolution of 1789; *eighty-three departments** were substituted for the *thirty-two provinces*, and

* Including the island of Corsica, a conquest of Louis XV., beyond the natural limits of France.

thus French unity was created. From that period the ambition of France was to reoccupy the natural boundaries of ancient Gaul, and to incorporate with itself the countries severed from it after the fall of the empire of Charlemagne. The county of Venaissin belonged to the Popes; Flanders, Hainault, Brabant, Antwerp, Namur, Liege, Limburg, Luxemburg, &c., after having been for centuries under the dominion of French princes, had passed away to the house of Austria; Treves, Cologne, Mayence, Juliers, Deux-Ponts, &c., formed part of the German Empire, and had their own sovereigns. The basins of the Upper Rhine and the Upper Rhone comprised the cantons and the allies of the Swiss Republic; finally, Savoy and Nice belonged to the King of Sardinia. The wars of 1792 and 1797 gave to France the county of Venaissin, the Austrian-Belgian provinces, the Electorates of Treves, Cologne, and Mayence, the Duchies of Luxemburg and Deux-Ponts, Geneva, Nice, Savoy, &c.; seventeen new departments were made out of these conquests; and their possession was legalized by the treaties of 1797 and 1801, which recognized the natural boundaries of France.

The incessant attacks of the European coalition against the French Revolution compelled the representative man of that Revolution to overstep these limits so long coveted and purchased by eight centuries of wars. France extended into Italy as far as the Garigliano, into Germany as far as the mouth of the Elbe, into Illyria as far as the Save and the Bocca di Cattaro; moreover, the kingdoms of Naples, Spain, Westphalia, Bavaria, Saxony, &c., were either her vassals or her allies. The result of this gigantic extension was to raise up all Europe against France, and the treaties of 1814 and 1815 made her retire, not within her natural boundaries, but within those of 1792, still exposed in their most vulnerable points. The spoils were distributed:—1, to the Prince of Orange, successor of the ancient stadtholders of Holland, in whose favour was created the kingdom of the Netherlands, composed of the ancient republic of the United Provinces and Austrian Belgium; 2, to the King of Prussia, to whom was given the duchies of Cleves and Juliers, Treves, Cologne, &c.; 3, to the King of Bavaria, who got the ancient duchy of Deux Ponts or Zweibrücken; 4, to the Duke of Hesse Darmstadt and several other petty princes of the Germanic

Confederation; 5, to the Swiss Confederation, which was augmented by the addition of Geneva, Valais, &c.; 6, to the King of Sardinia, to whom Savoy and Nice were restored. This state of things has continued unaltered for fifty years, save in two points, the separation of the kingdom of the Netherlands into two states, the kingdoms of Holland and Belgium, effected after the Revolution of 1830; the reunion to France of Savoy and Nice, after the Italian war of 1859.

The French region, therefore, is now politically divided into:—

1. *The French Empire*, divided into eighty-nine departments.* On the N.E., its boundary is formed by a conventional line drawn from Dunkirk to the mouth of the Lauter; on the east, by the course of the Rhine from the mouth of the Lauter to Basel, by part of the Jura range, by part of the Alps, by the course of the Roya; on the S.E., by the Mediterranean from the mouth of the Roya to the Pyrenees; on the S.W., by the continental Pyrenees; on the west, by the Bay of Biscay; on the north, by the English Channel and part of the German Ocean. Its greatest length is 560 miles; its greatest breadth, 512 miles; the length of its seaboard is 1,243 miles, and that of its continental frontier, 845 miles.
2. *The Kingdom of Belgium.*
3. *The Southern part of the Kingdom of Holland.*
4. *The Transrhenine States of the King of Prussia.*
5. *The Transrhenine States of the King of Bavaria.*
6. *A portion of the Duchy of Hesse-Darmstadt.*
7. *Helvetic Republic.*

The population numbers about 42 millions of inhabitants, of whom 80 per cent. are of French race (Gauls, Romans, Germans), 18 per cent. of pure German race, and 2 per cent. of pure Celtic or Iberian race. Of these, 3 millions are Protestants, and 500,000 Jews; all the remainder are Catholics.†

* The six departments in addition to the eighty-three original ones are made up by: 1, the county of Venaissin, which remained in the possession of France, and formed the department of Vaucluse; 2, the partition of the department of the Rhône-et-Loire into two departments, Rhône and Loire; 3, the formation of the department of Tarn-et-Garonne, constructed in 1808 of portions of neighbouring departments; 4, the annexation of Savoy and Nice, out of which three departments have been made.

† For the populations, dimensions, &c., of the various states of Gaul, see the statistical table at the end of this region.

TABLE OF THE PRINCIPAL DIVISIONS OF GAUL.

Peoples of Gaul before the Conquest.	Roman Provinces in the IVth. Century.	Feudal States, from the XIth. to the XIVth. Century.	Governments in 1789.	Departments in 1801.	Divisions in 1865.
Tarbelli, Preciani, &c.	Novempopulania	Viscounty of Bearn and Basse-Navarre	Bearn	Basses Pyrénées	Basses-Pyrénées.
Sardones	Narbonensis I.	Counties of Roussillon and Cerdagne	Roussillon	Pyrénées-Orient.	Pyrénées-Orient.
Volcæ Tectosages	Ead.	County of Foix	Foix	Ariege	Ariége.
	Ead.	County of Toulouse		Haute-Garonne	Haute-Garonne.
	Ead.	Viscounties of Narbonne and Carcasonne		Aude	Aude.
Volcæ Arecomici	Ead.	Lordship of Montpellier, Vis. of Beziers	Languedoc	Herault.	Herault.
	Ead.	Viscounty of Nimes		Gard	Gard.
Helvii	Viennensis	Vivarais		Ardèche	Ardèche.
Gabalii	Novempopulania	County of Gévaudan		Lozère	Lozère.
Vellavi	Aquitania I.	Velay and part of Auvergne		Haute-Loire	Haute-Loire.
Ruteni	Ead.	Albigeois		Tarn	Tarn.
	Ead.	County of Rouergue		Aveyron	Aveyron.
Ruteni, Cadurci, Nitiobriges	Ead.	Rouergue, Quercy, Agenois, Lomagne, &c.			Tarn et Garonne.
				Lot	Lot.
Cadurci	Ead.	Quercy			
Auscі	Novempopulania	Counties of Armagnac, Lomagne, Comminges	Guienne	Gers	Gers.
Bigerriones	Ead.	Counties of Bigorre, Comminges, &c.		Hautes-Pyrénées	Hautes-Pyrénées.
Tarbelli, Cocosates, &c.	Ead.	Gascony, Lordship of Albret, &c.		Landes	Landes.
Vivisci, Medulli, &c.	Aquitania II.	Bordelais		Gironde	Gironde.
Nitiobriges	Ead.	Agenois		Lot-et-Garonne	Lot-et-Garonne.
Petrocorii	Ead.	County of Perigord		Dordogne	Dordogne.
Aulni	Ead.	Saintonge and Aunis	Aunis	Charente Infér.	Charente Infér.
Santones	Ead.	County of Angoulême	Saintonge-Angoumoi	Charente	Charente.
Pictavi	Ead.	County of Poictiers and Duchy of Aquitaine	Poitou	Vendée	Vendée.
	Ead.			Deux-Sèvres	Deux Sèvres.
	Ead.			Vienne	Vienne.
Lemovices	Aquitania I.	Viscounty of Limoges	Limousin	Haute-Vienne	Haute-Vienne.
	Ead.	Limousin		Corrèze	Corrèze.
	Ead.	County of La Marche	Marche	Creuze	Creuze.

Arverni	Aquitania I.	County of Auvergne	Auvergne	Cantal	Cantal.
	End	Dauphiny of Auvergne		Puy de Dôme	Puy de Dôme.
	End	Lord-ship of Bourbon.	Bourbonnais	Allier	Allier.
Bituriges	End	Viscounty of Bourges	Berry	Cher	Cher.
	End	Berry		Indre	Indre.
Boii et Ædui	Lugdunensis I.	County of Nevers	Nivernais	Nièvre	Nièvre.
Segusiani	End	Lordship of Beaujeu, City of Lyons	Lyonnais	Rhône	Rhône.
	End	Forez		Loire	Loire.
Ambarri	End	*Bresse, Bugey, Gex* (Empire)	Burgundy	Ain	Ain.
Ædui	End	Counties of Macon, Charolais, &c.		Saône-et-Loire	Saône-et-Loire.
	End	Duchy of Burgundy		Côte-d'Or	Côte-d'Or.
Turones	Lugdunensis III.	County of Tours	Touraine	Indre-et-Loire	Indre-et-Loire.
Andegaves	End	Duchy of Anjou	Anjou	Maine-et-Loire	Maine-et-Loire.
Namnetes	End	Duchy of Brittany	Brittany	Loire-Inférieure	Loire-Inferieure.
Venetes	End			Morbihan	Morbihan.
Corisopiti	End			Finistère	Finistère.
Osismii	End			Côtes-du-Nord	Côtes-du-Nord.
Redones	End			Ille-et-Vilaine	Ille-et-Vilaine.
Aulerces	End	County of Maine	Maine	Mayenne	Mayenne.
Cenomani	End			Sarthe	Sarthe.
Unelli	Lugdunensis II.	Duchy of Normandy	Normandy	Manche	Manche.
Bajocasses, Lexovii	End	Idem		Calvados	Calvados.
Saii	End	Counties of Perche and Alençon		Orne	Orne.
Aulerci Eburovices	End	County of Evreux		Eure	Eure.
Caleti and Veliocasses	End	Duchy of Normandy		Seine-Inférieure	Seine-Inférieure.
Ambiani	Belgica II.	Amienois, Ponthieu, Vermandois	Picardy	Somme	Somme.
Atrebates and Morini	End	Counties of Artois and Boulogne and Calaisis		Pas-de-Calais	Pas-de-Calais.
Nervi and Morini	End	Flanders, Hainault, Bishopric of Cambray	Flanders	Nord	Nord.
Suessiones and Veromandii	End	Vermandois, Soissonais	Ile-de-France	Aisne	Aisne.
Bellovaci	End	Beauvaisis, Valois, &c.		Oise	Oise.
Parisii	Lugdunensis IV.	Hurepoix, Vexin, Mantais, France		Seine-et-Oise	Seine-et-Oise.
	End	France		Seine	Seine.
Meldi	End	Brie, Gatinais, France, &c.		Seine-et-Marne	Seine-et-Marne.
Carnutes	End	Counties of Chartres, Dreux, Dunois, and Perche	Orleannis	Eure-et-Loir	Eure-et-Loir.
Carnutes and Aurelianl	End	Counties of Blois, Vendôme, and Orleans		Loir-et-Cher	Loir-et-Cher.
	End	Counties of Orleans and Gatinais		Loiret	Loiret.

TABLE OF THE PRINCIPAL DIVISIONS OF GAUL—(*Continued*).

Peoples of Gaul before the Conquest.	Roman Provinces in the IVth Century.	Feudal States, from the XIth to the XIVth Century..	Governments in 1789.	Departments in 1801.	Divisions in 1865.
Senones	Lugdunensis IV.	Counties of Sens and Auxerre	Champagne	Yonne	Yonne.
Tricasses	Ead	County of Troyes		Aube	Aube.
Lingones	Belgica II.	County of Champagne, Bishopric of Langres		Haute-Marne	Haute-Marne.
Remi and Catalauni	Ead	County of Champagne, Archbishopric of Reims, Bishopric of Chalons		Marne	Marne.
Lingones and Nervii	Ead	Counties of Champagne, Rethel, Sedan, &c.		Ardennes	Ardennes.
Verodunenses	Belgica I.	Duchy of Bar, *Bishopric of Verdun* (Empire)	Lorraine	Meuse	Meuse.
Mediomatrici	Ead	*Bishopric and City of Metz* (Empire)		Moselle	Moselle.
Leuci	Ead	*Duchy of Lorraine, Bishopric of Toul* (Empire)		Meurthe	Meurthe.
		Duchy of Lorraine (Empire)		Vosges	Vosges.
Treviri	Ead	*Archbishopric of Treves, Duchy of Deux-Ponts* (Empire)	*Elector of Treves and duc. of Deux Ponts*	Sarre	*Prussian States.*
	Ead	*Archbishoprics of Treves and Cologne* (Empire)	*Electorate of Treves and Cologne*	Rhin-et-Moselle	*Idem.*
	Ead	*Duchy of Luxemburg* (Empire)	*Austrn. Netherlands*	Forêts	*Holland and Belg.*
Nervii	Belgica II.	*County of Hainault* (Empire)	*Idem*	Jemmapes	*Belgium.*
	Ead	*Duchy of Brabant* (Empire)	*Idem*	Dyle	*Idem.*
	Ead	County of Flanders	*Idem*	Lys	*Idem.*
	Ead	County of Flanders	*Idem*	Escaut	*Idem.*
Menapii and Toxandri	Germania II.	*Duchy of Brabant, Marquisate of Antwerp, and Lordship of Malines* (Empire)	*Idem*	Deux-Nèthes	*Idem.*
Menapii	Ead	*Bishopric of Liege and Duchy of Guelders* (Empire)	*Rep. of the United Provinces*	Meuse-Inférieure	*Holland.*
Ubii and Tungri	Ead	*Duchies of Cleves and Juliers, Archbishopric of Cologne* (Empire)	*Duchies of Cleves and Juliers,* Archbishopric of Cologne*	Roër	*Prussian States.*
Sunici and Condrusi	Ead	*Duchy of Limburg, Bishopric of Liege* (Empire)	*Austrn. Netherlands*	Ourthe	*Belgium.*

Aduatici	Germanica II.	*County of Namur, Bishopric of Liege* (Empire)	*Austrn. Netherlands*	Sambre-et-Meuse	*Belgium.*
Nemetes, Vangiones	Germania I.	Palatinate, Duchy of Deux Ponts, Archbishopric of Mayence, Bishoprics of Worms and Spire (Empire)	*Palatinate, Duchy of Deux-Ponts,† Electorate of Mayence.*	Mont-Tonnerre	*Bavaria, Hesse.*
Triboeci	Ead	*Landgravate of Low Alsace* (Empire)	*Alsace*	Bas-Rhin	Bas-Rhin.
Rauraci	Ead	*Landgravate of High Alsace, Bishopric and City of Strasburg, Republic of Mulhausen, County of Ferrette* (Empire)		Haut-Rhin	Haut-Rhin.
Helvetii	Maxima Sequanorum	*German Empire*	*Swiss Cantons*	*Helvetic Confeder.*	Helvetic Confeder.
Sequani	Ead Ead Ead	*County of Burgundy* (Empire)	Franche-Comté	Doubs Haute-Saône Jura	Doubs. Haute-Saône. Jura.
Sequani and Veragri	Alpes Graiæ	*Bishopric of Sion and County of Savoy* (Empire)	Repub. of the Valais	Simplon ‡	Helvetic Confeder.
Centrones	Alpes Penninæ	*County of Savoy* (Empire)	Duchy of Savoy	Mont-Blanc	Haute-Savoie.
Nantuates and Allobroges	Viennensis.	*Bishopric and County of Geneva* (Empire)	Rep. of Geneva and Duchy of Savoy	Lac Leman	Savoie.
Allobroges	Ead	*County or Dauphiny of Viennois* (Empire)	Dauphiny	Isère	Isère.
Segalauni, Vocontii, and Tricastini	Ead	*Counties of Valentinois and Diois* (Empire)		Drôme	Drôme.
Caturiges and Tricorii	Alpes Maritimæ	*Dauphiny of Viennois, Marquisate of Provence* (Empire)		Hautes-Alpes	Hautes-Alpes.
Intemelii, Vediantii	Ead	*County of Nice* (Empire)	*County of Nice*	Alpes-Maritimes	Alpes-Maritimes.
Vulcientes and Albienses	Narbonensis II.	*Marquisate of Provence* (Empire)	Provence	Basses-Alpes	Basses-Alpes.
Salyes	Ead	*County of Provence* (Empire)		Var	Var.
Salyes, Anatolii, &c.	Viennensis	*County of Provence* (Empire)		Bouches-du-Rhône	Bouches-du-Rhône.
Cavares	Ead	*County of Avignon, Principality of Orange* (Empire)	*Comtat Venaissin*	Vaucluse	Vaucluse.

* The Duchy of Cleves belonged to the King of Prussia, and the Duchy of Juliers to the Elector of Bavaria.
† The Duchy of Deux-Ponts (Zweibrücken) and the Palatinate belonged to the Elector of Bavaria.
‡ Formed in 1810.

§ III.—NORTHERN WATERSHED OF THE PYRENEES.

The northern watershed of the Pyrenees is formed, as we have said, of a portion of the watershed of the Mediterranean, and of a portion of the watershed of the Atlantic, which we shall unite in order to make our description of the S.W. frontier of France.

This watershed, richer and more varied than the southern watershed, presents beautiful and fertile valleys, but no spurs of any great size. The most remarkable are:—

1. The *Canigou* and the *Aspres*, which are given off from the Pic de Castabone (7,943 feet), near the diverging sources of the Tech and Ter. The Canigou forms a very imposing mass, rising to the height of 9,137 feet; it is prolonged into the plain of Roussillon by means of the Aspres, very spread-out and confused mountains of great military importance; they are the natural refuge of an army defending Roussillon, and it was by them that the Spanish invasion was turned in 1794.

2. The *Eastern Corbières* arise from the Pic de Corlitte, near the diverging sources of the Tet and Segre, and are prolonged from S.W. to N.E., as far as the point of Leucate; they have an average height of 4,920 feet. They are arid, thick, difficult, intersected by oblique and rugged valleys—they have long served as a frontier betwixt Spain and France, and have been contested for 150 years; for Roussillon they are a better defence than the Pyrenees themselves. Few roads are to be found in them; the principal is that from Perpignan to Narbonne, defended by the fort of *Salces*, which is situated between the last crest of the Corbières and the lagoon of Leucate; but this fort has become almost useless since the lagoon has sunk and receded.

3. The *Western Corbières* also arise from the Pic de Corlitte, but near the sources of the Ariége and Aude, which they separate; they belong to the general water-parting of Europe, and rise from S.E. to N.W. They are skirted on the left by the Ariége, on the right by the Aude, as far as the pass of Naurouze (620 feet), where the Cevennes commence; over this depression, the Southern Canal, which joins the Atlantic and Mediterranean, passes. The average height of this chain is only from 984 to

1,312 feet; but its culminating point, the *Peak of St. Bartholomew*, on the east of Tarascon on the Ariége, attains a height of 7,654 feet. The angle formed by the Western Corbières and the Eastern Pyrenees gives five small basins to the Mediterranean—Tech, Réar, Tet, Gly, and Aude.

4. The *Hills of Bigorre*, between the valleys of the Neste (Garonne) and Adour, contain the grandest heights of the French Pyrenees. They are very rugged in their upper parts. Their average height is 6,560 feet, and their culminating point, the *Pic Cambielle*, rises to 10,610 feet; they decline very rapidly to the north, and are lost in the low hills that separate the Adour from the Garonne. In their upper part they are only crossed by the road which connects Bagnères de Luchon with Bagnères de Bigorre, passing over the *Hourquette d'Arreau* (5,009 feet). Farther on no road is met with except the one that runs on the level from Tarbes to Lannemezan. The angle formed by the hills of Bigorre and the Western Pyrenees gives to the Atlantic the basins of the Nivelle and Adour.

Between the Western Corbières and the hills of Bigorre lies the basin of the Garonne. Thus:—1, the basins of the *Tech*, *Réar*, *Tet*, *Gly*, and *Aude*, belong to the Eastern Pyrenees; 2, those of the *Nivelle* and *Adour* to the Western Pyrenees; 3, that of the *Garonne* to the Central Pyrenees.

1.—BASIN OF THE TECH, RÉAR, TET, GLY, AND AUDE.

Basin of the Tech.—The *Tech* has its basin formed by the Eastern Pyrenees, the Canigou, and the Aspres; it rises near the Pic de Castabone, flows through a very deep and rugged gorge called the *Valspir* (vallis aspera), and runs parallel with the Pyrenees from S.W. to N.E.; it washes PRATZ DE MOLLO, a small stronghold, which guards the passes from the valley of the Ter to that of the Tech, and which has for an auxiliary fort Lagarde; it runs near ST. LAURENT DE LA CERDA, at the entrance to the Pass of Coustouges, the first point invaded by the Spaniards in 1794; FORT LES BAINS, a bastioned quadrilateral, built on the crest of the Montalba, and crowning the middle of the basin; CERET, at the mouth of the pass of Portell, battle of 1793, when the French were defeated; LE BOULOU,

battle of 1794, gained by the French over the Spaniards; by it passes the great road from the Col de Pertus, defended by BELLEGARDE (1,440 feet), an important fortress, constructed 459 feet above the pass, on an isolated and apparently inaccessible cone; in connection with it is the redoubt of *Pertus;* it was taken by the Spaniards in 1793. The Tech next passes on its right VILLALONGUE (battle of 1794, lost by the French), runs near ELNE (Illiberis), situated on the road from Perpignan to Port-Vendres, and terminates after a course of forty-five miles; it is not a navigable river, is often dry in summer, and in winter becomes a dangerous torrent: it is skirted by the road from Campredon to Boulou, that runs alternately along its right and left bank.

From Cape Cervera to the mouth of the Tech, the coast is very hilly, almost impracticable, and defended by a system of fortifications, comprising the two towns of Port-Vendres and Collioure, with Fort St. Elme. These two towns are situated at the extremities of a small mountainous basin, of triangular form, the apex of which is occupied by fort ST. ELME; PORT-VENDRES is a small seaport, defended by four forts and batteries, and has been of much importance since the conquest of Algeria; it can admit frigates, and serves as an auxiliary to Toulon; it is not fortified on the land side. COLLIOURE is a small commercial seaport, which, in addition to its bastioned enceinte, is defended by two forts and the castle of *Miradoux*. These two towns, and Fort St. Elme, the key of both, were taken by the Spaniards in 1794.

Basin of the Réar.—This little stream is the chief drain of the waters issuing from the Aspres; it runs a level course, and gives off many irrigating canals, on which are seated MAS D'EU and TRUILLAS, battles of 1793; it terminates in the salt lagoon of St. Nazaire.

Basin of the Tet.—This torrent-like stream, whose basin is formed by Mont Canigou and the Aspres on the south; by the eastern Corbieres on the north, rises near the Pic de Corlitte; it runs in a very deep ravine, forming a continual defile, commanded by Montlouis, and barred by Villefranche.—MONT-LOUIS is the highest town in France (5,210 feet); situated on the right of the Pass of La Perche, on a precipitous rock that

commands the river; it has regular fortifications, with a Vauban citadel, and commands all the valleys that descend from the Pic de Corlitte, especially that of the Segre, the sources of which belong politically to France.—VILLEFRANCHE has irregular fortifications and six bastions; it is situated in a narrow ravine between two mountains, one of which is surmounted by a castle. The Tet issues from its defile above PRADES, throws out a great number of branches made for irrigation, washes MILLAS and CORNELIA, celebrated in the campaign of 1793; finally runs by PERPIGNAN, the ancient capital of Roussillon, chief town of the department of the Eastern Pyrenees and of the 11th military division, &c. It is a very important military stronghold, the centre of the defence of the Eastern Pyrenees; it lies on the slope of a hill on the right of the river, and has a very strong citadel, with a triple enceinte, commanding the whole town. It was taken by the French from the Spaniards in 1642; the country round about it was the theatre of several fights in 1793.—The Tet has a course 65 miles long, not navigable; it is skirted right and left by the road from Puycerda to Perpignan.

The Tech and the Tet, running parallel to the chain, are turned and taken in rear by the roads that skirt them, so that the strategic line of the Pyrenees is not on the crests of mountains, but behind the Tet. Though insignificant in themselves, these rivers, with their numerous irrigating canals, form a labyrinth of watercourses that may be turned to use in military operations.

Basin of the Gly.—The *Gly* is a small stream that rises in the Eastern Corbieres, runs from west to east, and presents very much the same characters as the preceding streams; it passes not far from PEYRESTORTES (battle of 1793, where the French beat the Spaniards), and terminates after a course of 45 miles. Its inundations are formidable.

The plains of these four small basins are very low; seen from the top of the Pyrenees, they appear to be buried under water, and near the sea they become marshy, the coast beyond the Tech being flat and sandy. The temperature is very high in the plains; the soil is fertile, producing wine and olives in abundance; the verdure follows the track of the rivers and canals; all the rest is burnt up by the sun. In former

times these four basins composed *Roussillon*, a province that seemed to be separated by nature from both France and Spain; at present they belong to the department of the *Eastern Pyrenees*, which forms part of the 11th military division.

Basin of the Aude.—The *Aude* (Atax) is surrounded by the Eastern Corbieres on the east, and the Western Corbieres on the west. It rises at the Pic de Corlitte, and flows through the *Capsir*, a mountain valley from 6 to 12 miles in diameter, covered by forests and lying at an elevation of 4,920 feet; then it runs on a level, washes LIMOUX; CARCASSONNE, chief town of the department of the Aude, an ancient stronghold still possessing a castle and walls, built during the middle ages. Thence it turns from west to east, skirting the Southern Canal, cuts the Roubine Canal, passes near NARBONNE (Narbo Martius, metropolis of Narbonensis I.), an ancient stronghold, situated on the Roubine Canal, and between the salt lagoons of Sigean and Agde, after a course of 124 miles.—It is not navigable, and receives many rivulets, which are cut by the Southern Canal. Protected only by two inferior fortresses, Carcassonne and Narbonne, it is only of secondary importance in a military point of view; the Southern Canal is the true moat behind the Tet.

The shore from the Tet to the canal is flat, sandy, bordered by very large sea lagoons, among which the most remarkable are the Etangs of *Leucate* and *Sigean;* the only harbour is at LA NOUVELLE, where the Roubine Canal terminates, and which is defended by a tower. It is the port of Narbonne.

The basin of the Aude belongs to the department of the *Aude*, which forms part of the 11th military division.

2.—BASINS OF THE NIVELLE AND ADOUR.

Basin of the Nivelle.—The *Nivelle* is a torrent that rises at the Col de Maya; it enters France above AINHOUÉ, passes near the camp of SARRE, celebrated in 1793 and 1813, and ends at ST. JEAN DE LUZ, a small seaport exposed to storms and unsheltered; its haven is defended by fort SOCOA.

Basin of the Adour.—The basin of the Adour is encircled by the Western Pyrenees and by the hills of Bigorre, which turn to the west, growing always lower, and terminate by becoming lost in great barren plains (landes). The basin has thus a

semicircular form, whose diameter is formed by the Pyrenees. The river follows the direction of the circumference of this semicircle, and its tributaries describe arcs parallel to itself. The most northern part is composed of barren plains; the most southern is very rugged, studded with high mountains covered with forests and snow; the middle portion is rich, well peopled, intersected by admirable valleys and hill-sides, covered with vines and pasturage. Here are bred the race of horses called Navarrins, in great request for light dragoons. The streams, which are numerous, are unnavigable torrents; the roads, few and indifferent, do not allow the exportation of the products of the soil; the population is active, intelligent, warlike; the Basques, inhabiting the upper valleys, are the descendants of the ancient Iberians, whose language they retain; they make excellent light infantry. The coast, straight and elevated, has only two sea-ports, St. Jean de Luz and Bayonne; it furnishes excellent sailors, renowned from the middle ages for their glorious deeds.

Course of the Adour.—The *Adour* (Aturus) rises in Mont Tourmalet, which belongs to the hills of Bigorre, at a height of 6,330 feet; it flows through the beautiful valley of Campan, washes BAGNÈRES (1,870 feet), celebrated for its mineral waters; TARBES, chief town of the department of the Upper Pyrenees; then it turns to the west, receiving a number of brooks parallel to its course, passes AIRE, an important position that allows its possessor to throw his troops on the Upper or Lower Adour, and commands the road from Pau to Bordeaux (engagement of 1814). Thence the river flows through a country of barren heaths, past DAX, a fortress with nothing but old towers and a bad castle; then it turns almost directly south, and at the confluence of the Nive it washes BAYONNE, a first-class fortress, fortified by Vauban, the chief town of the 13th military division; its principal work is the citadel of *St. Esprit*, placed on a height on the right bank of the Adour, and commanding all the town, the river, and its mouth. This fortress, where the roads of the Western Pyrenees converge, is the gate of Spain, and the centre of the defence of France on this side; it served Soult as an entrenched camp in 1814, and was ineffectually besieged by the English. Its harbour, formed by the confluence of the Nive and Adour, can admit ships of war, but it is little frequented because

the mouth of the river is obstructed by a very dangerous shifting sand-bank.—At 2½ miles from Bayonne the Adour runs into the sea after a course of 175 miles; it is navigable for 70 miles from St. Sever, and is liable to great overflows.

Tributaries on the Left of the Adour.—1. We find several parallel torrents which flow through narrow and infertile valleys; the most remarkable are the *Luy de Bearn* and the *Luy de France*, which join and fall in below Dax after a very long course; they are not navigable.

2. The *Gave de Pau* rises from the waterfall of Gavarnie (7,646 feet); it washes St. Sauveur, where it is joined by the *Bastan*, which passes by Barèges;—Lourdes, a small town surmounted by a strong castle built on a rock of 1,538 feet high, which covers the pass of Cauterets;—Pau, the ancient capital of Béarn, chief town of the department of the Lower Pyrenees, birth-place of Henry IV., of Marshal de Gassion, and of Bernadotte;—Orthez, central position of the basin of the Adour, where Soult in 1814 fought with the English and was beaten. It runs into the Adour below Peyrehorade, and receives the *Gave d'Oléron*, which washes Oléron, a small town formerly fortified, and Navarreins, a small fortress of little importance. The Gave d'Oléron itself receives at Oléron the *Aspe*, a torrent that rises at the Col de Canfranc and on which stands the fortress of Portalet, the defence of this pass.

3. The *Bidouze*, a stream navigable for 12 miles, flows by St. Palais, and offers defensible positions parallel to the Nive.

4. The *Joyeuse* passes by Hellette, and terminates below Urt. It is celebrated for the numerous combats on its banks in the campaign of 1814.

5. The *Nive* rises in Mont Orcullo, and washes St. Jean Pied de Port, an important stronghold with a citadel and four advanced redoubts; it receives the *Bayunza*, which runs through the valleys of Aldudes and Baygorri; then it passes by Bayonne, and by its confluence with the Adour forms the harbour of that town. This little stream, unfordable in winter and navigable for 12 miles, covers the approaches to Bayonne; it was energetically defended in 1813; the plateaus that separate it from the Adour near Bayonne were the theatre of a sanguinary battle lasting four days.

Tributaries on the Right of the Adour.—The tributaries on the right of the Adour are unimportant; the most notable is the *Midouze*, which washes MONT DE MARSAN, chief town of the department of the Landes, and TARTAS, from which it is navigable for 25 miles.

The Adour and its tributaries are the great defensive lines of France on the side of the Western Pyrenees; they are but feeble lines, but in consequence of their valleys being very much broken and arranged in a semicircular form, they are defensible especially in winter, when the streams become broad and rapid. The fortresses of the Pyrenees, with the exception of Bayonne, are not strong; nevertheless in 1814 Marshal Soult employed them with success, in order to retard the advance of the English. Behind Bayonne there is only Dax, but there is something still better, *viz.* the large tracts of desert country (landes) traversed by only two roads and a railway, which cover Bordeaux.

The basins of the Nivelle and Adour comprise the departments of the *Upper Pyrenees*, *Lower Pyrenees*, and a portion of that of the *Landes*; these departments belong to the 13th military division.

3.—BASIN OF THE GARONNE.

This basin is formed:—1, by the eastern slope of the hills of Bigorre; 2, by the northern slope of the Central Pyrenees; 3, by the western slope of the Western Corbieres and of the Southern Cevennes; 3, by the southern slope of the chain between the Garonne and Loire. General direction: from S.E. to N.W.; length, 270; greatest breadth, 160 miles.

Encircling Mountains.—1. The *Hills of Bigorre*, which have been already alluded to; they are continued in the small hills of Armagnac and the Bordelais, which constitute the water-parting betwixt the Garonne and Adour.

2. The *Central Pyrenees* are very high and very difficult; their culminating points are the Pic de *Montcalm* (10,660 feet), and the Pic *d'Estatz* (10,610 feet), and they are only crossed by bridle-paths, scarcely practicable for smugglers.* A highway runs from Agen on the Garonne by Auch and Lannemezan,

* Vide ante, p. 92.

and terminates at St. Larey on the Neste; it was this road that Napoleon wished to continue into Spain, by means of which all the defensive positions of Catalonia and Navarre could be turned. This road is all the more necessary, as it crosses near the middle the road that joins Bayonne and Perpignan, by Orthez, Pau, Tarbes, Lannemezan, St. Gaudens, St. Girons, Tarascon, and Quillan, which is of great importance for the defence of all the frontier of the Pyrenees.

3. The *Western Corbieres* have been already described; as for the *Southern Cevennes*, they run from the Col de Naurouze in a direction from S.W. to N.E., under the name of *Black Mountains*, for 37 miles, of *Espinous* (4,198 feet) for 25 miles, of *Orb* for 15 miles, of *Garrigues* for 30 miles, of *Gévaudan* for 30 miles (total 137 miles), to *Mont Lozere*, near the sources of the Tarn and Lot. Their western flank slopes gently and throws off long spurs, the largest of which run between the Agout and Tarn and between the Tarn and Aveyron; their eastern flank is very rugged and trends towards the Rhone. They contain many extinct volcanoes and exhibit deep fissures in their upper valleys. Their average height is from 3,280 feet to 3,936 feet; Mont Lozere is 4,887 feet. They are crossed by several roads:—1, from Narbonne by Carcassonne, skirting the Southern Canal to Toulouse (railway); 2, from Beziers to Castres; 3, from Montpellier to Milhau; 4, from Nimes to Mende.

At Mont Lozere the general line of water-parting runs to the N.E. by the Northern Cevennes, and at a few miles to the north of Mont Lozere near the source of the Allier, a range of mountains is detached which runs first from S.E. to N.W. under the name of the *Margeride*, with an average height of 3,900 to 4,600 feet. It turns the waters of the Lot into the basin of the Garonne, and throws out long spurs; the most remarkable is the plateau of *Causses*, composed of high, sterile, scantily peopled plains; it runs from the western prolongation of Mont Lozere, and near the sources of the Aveyron divides into two branches, that of the S.W. or *Monts Levezou* (3,598 feet), between the Tarn and Aveyron; that of the N.W. or *Monts Rouergue* between the Aveyron and Lot.

The Margeride mountains are connected with the Auvergne mountains by the *Plomb de Cantal*, a mass of volcanic origin,

6,096 feet high, whence arise twenty diverging streams which flow into the basins of the Lot, Dordogne, and Allier; on its flanks are the road from Murat to St. Flour by the Vallottes (3,569 feet), and that from Murat to Aurillac by the Font de Cere (4,248 feet).

The Auvergne mountains run at first from south to north from the Plomb du Cantal to Mont Dore, and average 4,920 feet in height; their culminating points are, the *Cézallier* (4,763 feet), the *Puy Ferrand* (6,114 feet), the *Puy de l'Aiguillier* (6,061 feet), the *Mont Dore*, whose principal summit is the *Puy de Sancy* (6,187 feet), the highest mountain in the interior of France. This part of the Auvergne mountains, which is specially designated the *Monts Dores*, turns to the S.W., the basin of the Dordogne, and throws out very large spurs; the most remarkable is that which runs from the Cantal, separates the basins of the Lot and Dordogne, and whose culminating point is the *Puy de la Grange* (5,871 feet).

At Mont Dore the Auvergne mountains bifurcate; the northern branch continues the chain in all its ruggedness; and we shall again meet with it in the basin of the Loire under the name of *Dômes Mountains;* the western branch has an average height of only 3,280 feet; it runs in a very tortuous line at first from S.E. to N.W. as far as the sources of the Cher, then from N.E. to S.W. as far as the plateau of Mille Vaches.

The Auvergne mountains contain a large number of extinct volcanoes; almost all of them have the form of truncated cones, and abound in scenery of the wildest and most picturesque character; vegetation is very active upon them, and their flanks are decked with excellent pasturage.

On the plateau of Mille Vaches, which crowns *Mont Odouze* (4,474 feet), whence the streams flow in all directions, the Creuse to the north, the Vienne to the west, the Vezère to the S.W., &c., the Auvergne mountains are joined to those of *Limousin*. These mountains, of granite formation, and of rounded shape, form sterile plateaus, the greatest height of which is 3,116 feet; they run, always getting lower, as far as the sources of the Tardouère (Charente), Dronne (Dordogne), and Gorre (Vienna). There the line of encircling hills bifurcates; the northern branch continues the Limousin mountains, and we

shall meet with it again in the basin of the Charente; the southern branch forms the *Perigord* hills, which separate the basins of the Charente and Garonne, and terminate about the mouth of the Gironde.

A few roads cross the Margeride mountains from Auvergne and Limousin; the principal run: 1, from Clermont-Ferrand by St. Flour to Rhodez; 2, from Clermont by Mauriac to Aurillac; 3, from Clermont by Ussel to Tulle; 4, from Limoges to Tulle; 5, from Limoges to Perigueux; 6, from Angoulême to Bordeaux. The railway from Paris to the Spanish frontier runs nearly parallel with the last.

General Aspect.—The basin presents three different aspects; 1, upon the coast and for a depth of 62 miles nothing is to be seen but large, melancholy, sombre, monotonous, sandy plains, varied only by marshes and heaths, in the midst of which there occur occasionally oases of verdure, pine forests, and barren tracts; there the sand hills (dunes) seem to move forward like waves and accumulate to such an extent as to swallow up woods, cultivated fields, and even villages; they move at the rate of 82 feet in a year; almost everywhere they have been successfully arrested by plantations of the maritime pine (*L. maritima*, L.); the air is unwholesome, the country poor, almost destitute of towns and roads, the population wretched and scattered; 2, the centre is composed of low table-land, broad valleys covered with rich vineyards, copses, and cornfields; the air is wholesome, the climate temperate, the country thickly peopled; 3, the bottom of the basin is occupied by long mountains, the flanks of which are covered with forests enclosing narrow valleys; the soil is unfavourable to the growth of corn, but abounds in excellent pasturages, much mineral wealth, and highly valued light horses.

Coast.—The coast is straight and flat, sandy and liable to inundations, dangerous to the navigator, and almost inaccessible; it is covered by marshy creeks or salt lagoons, showing that its desolate shore was formerly below the Atlantic ocean; the most remarkable of these lakes is the *Basin of Arcachon*, whereon lies the small seaport of TETE DE BUCH, the only one between the Adour and the Gironde; it is connected with Bordeaux by railway.

Course of the River.—The *Garonne* (Garumna) rises in the valley of Aran, which belongs politically to Spain, in a circular

basin abutting on the two peaks of Maladetta and Mont Vallier (9,292 feet); it enters France 5 miles above St. Beat, flows through a deep defile, washes St. Bertrand and St. Gaudens, then traverses a narrow valley, describing a segment of a circle, washes Muret (battle of 1213, gained by Simon de Montfort over the Albigensies and the King of Aragon);—Cazeres, where it becomes navigable;—Toulouse, where it inclines to the N.W.

Toulouse, the ancient capital of Languedoc, chief town of the 12th military division and of the department of the Upper Garonne, is the most important town of all the watershed of the Pyrenees; it is not a military stronghold, but it possesses a cannon foundry, artillery forges, a powder mill, an arsenal, military magazines, an artillery school, a military college, a garrison of artillery, infantry, &c.. Its enceinte, formerly composed of thick walls, is covered on the east and north by the Southern Canal, on the west by the Garonne, so that it is inaccessible, except on the south between the canal and the river. It lies on the right bank of the Garonne, and has on the left bank a suburb called St. Cyprien, lying in a bend of the river, and constituting a good bridge head. Four roads converge on the right bank: they are those from Paris, Montauban, Alby and Nimes; two converge on the left bank: they are those from Bayonne and St. Gaudens. This town is the great centre of population of the watershed of the Pyrenees (pop.,. 113,000), the converging point of the roads from Spain, the strategic point of all the south of France; the middle of the extreme points of invasion, it allows a commander to isolate two armies that may have debouched by Bayonne and Perpignan, and to manœuvre on both banks of the Garonne as far as the Pyrenees. This was the object of the operations of 1814, when Marshal Soult, having lost successively all the lines of the Adour, in place of continuing his retreat to the north upon Bordeaux, abandoned this road, the protection of the great *landes*, and threw himself from by Tarbes into the basin of the Garonne, in order to open the right flank of the English; Wellington followed him directed all his efforts upon Toulouse, by which he could the *landes* and descend on Bordeaux; and then was battle of the 10th April, in the formidable lines con Soult, between the Lers, the Garonne, and the Sou

Leaving Toulouse, the river receives the *Souther*

by Riquet in 1680, and improved by Andréossy. This canal terminates at the Lagoon of Thau on the Mediterranean, passing by VILLEFRANCHE, CASTELNAUDARY, BEZIERS, and AGDE. It is 6½ feet in depth, 32 in breadth, and 141 miles in length; it has 18 locks on the right, and 189 on the left; each of these is provided with light bridges for the service, and there are besides 72 ordinary bridges for the roads, and 55 aqueducts for crossing the rivers. All these bridges may be easily destroyed, and this is what was done by Marshal Soult in order to facilitate his retreat in 1814. Toulouse has 6 of them. The Southern Canal is a good line of defence behind the Pyrenees. It is skirted by the railway that connects Cette with Bordeaux by Toulouse.

After its junction with the canal, the Garonne flows in an almost uninterrupted plain to the end of its course; its bed is not deep, and varies frequently on account of the lowness of its banks; it is subject to frequent inundations, which devastate the adjoining fields, whose fertility is very great; its navigation is difficult and often interrupted when the water is low; its velocity is 164 feet a minute, and its average breadth 656 feet. It washes: GRENADE, where Wellington's army crossed the river in order to fight the battle of Toulouse;—CASTEL SARRAZIN;—AGEN, chief town of the department of Lot and Garonne, where a lateral canal commences on the left bank;—MARMANDE, where the navigation becomes safer;—LA RÉOLE;—BORDEAUX, where its breadth is from 230 to 270 feet; and its depth from 66 to 98 feet.

This town (Burdigala, metropolis of Aquitania II.), the ancient capital of Guyenne, chief town of the department of the Gironde and of the 11th military division, is the richest in the S.W. of France, and its third commercial port; population, 162,000. It lies on the left of the river, which is crossed by a magnificent bridge of 1,597 feet long; its harbour, which is two thirds of a mile broad and 5 miles long, can admit ships of 5 to 600 tons burden, and has room for upwards of 1,200; it is 56 miles from the Atlantic, and is connected with the Mediterranean by the Southern Canal, and with Paris by a railway.

[redacted] miles from Bordeaux, at a place called *Bec d'Ambez*, the Garonne joins the Dordogne; the united rivers, under the name of *Gironde*, form a large expanse of water studded

with islands and sand-banks, from 2 to 9 miles in breadth; on the left it is defended by fort MEDOC; on the right by the citadel of BLAYE, and in the middle by fort PATÉ, built on an island; here the river is 12,464 feet broad, and the fire of the three forts crosses in the middle of its course. After this the Gironde continues to increase in breadth, leaves on its left the small port of PAUILLAC, and attains its greatest width at VALAYRAC, where it looks like an arm of the sea; it narrows to 3 miles opposite ROYAN, a small port celebrated by the siege of 1622, and there falls into the Atlantic. The fort of *Royan* on the right and the battery of the *Pointe de Grave* on the left defend its mouth, in front of which is the tower of *Cordouan;* the finest lighthouse in France, whose revolving lights may be seen more than 25 miles out at sea.—The Garonne has a course of 360 miles, 50 of which belong to the Gironde; it is navigable for 265 miles, and available for rafts for 48 miles or more.

Tributaries on the Left.—1. The *Pique* rises at the Port de Venasque, runs through a deep valley, washes Bagnères de Luchon, and terminates above St. Béat.—2. The *Neste* is formed by two torrents, which join at Arreau; it flows through the beautiful valley of Aure, and terminates above Montréjeau. After these mountain torrents, the tributaries on the left come from the heights that bound the right bank of the Adour, flow through fertile country, and are of little importance. The most remarkable are: 3, the *Save*, which runs past LOMBEZ, and ter-minates at GRENADE; 4, the *Gers*, which washes AUCH (Au-metropolis of Novempopulania), chief town of the department GERS, and LECTOURE, formerly a strongly fortified town, famo for the massacre of 1473, the birthplace of Marshal Lannes; the *Baïse*, which runs by MIRANDE, CONDOM, and NERAC; it navigable from Condom.

Tributaries on the Right.—They are numerous, of consid able size, tortuous, and navigable with difficulty.

1. The *Salat* washes ST. GIRONS; it is navigable for t miles.

2. The *Ariége* (Aurigera) rises at the Col de Puymo washes: AX (2,394 feet);—TARASCON;—FOIX, the anci of the county of Foix, chief town of the departmen defended by an old castle, celebrated for the sieges

in the middle ages;—HAUTERIVE, where it becomes navigable. It terminates below Toulouse, after a course of 93 miles.

3. The *Lers*, a small stream that runs parallel with the Southern Canal as far as VILLEFRANCHE, crosses the canal, passes in front of Toulouse, and runs parallel with the Garonne as far as Grenade, where it terminates. It covers Toulouse on the east. The battle of the 10th April, 1814, was fought on its banks.

4. The *Tarn* (Tarnis) rises in the forest of Armes (2,526 feet), on Mont Lozère, washes MILHAU, ALBY, chief town of the department of Tarn; is navigable at GAILLAC, runs by MONTAUBAN, chief town of the department of Tarn and Garonne, and ends below Moissac. It flows through a fertile plain, which is liable to be devastated by its floods, though its bed is deep and its banks precipitous.—It receives: 1, the *Agout*, which runs by CASTRES and LAVAUR; in its basin and near the Black Mountains is ST. AMANS, the birthplace of Marshal Soult; 2, the *Aveyron*, on which stands Rodez (2,066 feet), ancient capital of Rouergue, chief town of the department of Aveyron; this stream has a dangerous course, in which it brings down sand and mud, which it spreads over the adjoining plains. It is navigable at NEGREPELISSE.

5. The *Lot* (Oltis) arises in the Cevennes. On it stands MENDE, chief town of the department of Lozère, and CAHORS, ancient capital of Quercy, chief town of the department of Lot; there it commences to be navigable; it runs by VILLENEUVE [illegible]AGEN, and ends near AIGUILLON. Throughout its course (155 [illegible]les) it is liable to floods and dangerous, its bed being embarrassed and often quite obstructed by rocks, and its navigation consequently difficult.

6. The *Dordogne* (Durannius) rises in Mont Dore, runs through SOUILLAC, a manufactory of arms, where it is navigable;—[illegible]RGERAC, a very strongly fortified town in the sixteenth century, [illegible]antled in 1621;—CASTILLON, battle of 1451, where the Eng[illegible]ere beaten by the French;—LIBOURNE, a port whither the [illegible]ings up ships of 300 tons burden, a cavalry garrison;—[illegible]where it is 4,592 feet wide, and where it unites with [illegible]ne to form the Gironde. Its course is 224 miles, [illegible]h are navigable; the flowing tide produces in it the [illegible] of the *bore*, which rushes 20 miles up the river,

overthrowing everything in its course.—It receives a large number of tributaries: 1, the *Cère*, which rises in Mont Cantal, and passes near AURILLAC, chief town of the department of Cantal; 2, the *Vezère*, which rises in the plateau of Mille Vaches, is navigable for 26 miles, and receives the *Corrèze*, the latter runs by TULLE, chief town of the department of Corrèze, manufactory of fire-arms, and BRIVES, birthplace of Marshal Brune; 3, the *Isle*, which flows through a broad valley and washes PERIGUEUX, the ancient capital of Perigord, chief town of the department of Dordogne; it is navigable for 74 miles, and ends at LIBOURNE, after having received a great number of tributaries, the chief of which is the *Dronne*, which terminates at COUTRAS, battle won by the Protestants over the Catholics in 1587.

Political Divisions.—The basin of the Garonne contains the following fourteen departments:—*Ariége*, which belongs to the 11th military division; *Upper Garonne*, *Tarn and Garonne*, *Lot*, and *Tarn*, which belong to the 12th; *Aveyron* and *Lozère*, which belong to the 10th; *Cantal*, which belongs to the 20th; *Corrèze*, which belongs to the 21st; *Dordogne*, *Gironde*, and *Lot and Garonne*, which belong to the 14th; *Gers* and *Landes*, which belong to the 13th.

SUMMARY OF THE FRONTIER OF THE PYRENEES.

The boundary line between France and Spain follows the Bidassoa to above Biriatu, runs up the northern enclosing heights of that river, crosses the Nivelle and the chain separating the Nivelle from the Nive; it then follows the line of enclosing hills between the valley of Bastan (Bidassoa) and the valley of Baygorri and the Aldudes (Bayunza), almost reaches the principal chain, follows the other enclosing hills of the Bayunza, and reaches the great chain at the Col d'Orisson. It follows the great chain to the sources of the Pique (Garonne) and Essera (Ebro), runs north between the Pique and Garonne, crosses this river 5 miles south of St. Béat, returns southwards towards the great chain, which it reaches at the sources of the Noguera-Pallaresa (Ebro) and Lézar (Garonne). It now follows the great chain towards the Pic de Corlitto, crosses the Carol, a tributary of the Segre, the Segre, and near Puycerda, the Vanera, a

tributary of the Segre, so that the sources of these three rivers are in French territory; finally, it again runs along the great chain and follows it to near the Col de Banyuls, where, in place of following the ridge that terminates at Cape Creus, it runs along the spur that ends at Cape Cervera.

This frontier is divided into three parts:—Western, Central, and Eastern Pyrenees. The first part is almost quite open, Spain possessing both sides of the great chain, and the defence must avail itself of all the secondary chains and brooks with which the country abounds. We have seen that the fortresses, Bayonne excepted, are insufficient, but that behind them are the great barren spaces (landes) which cover Bordeaux.—The second part, having no roads, needs nothing but its mountains for its defence; there are no strongholds here, but Toulouse is a great centre of resources and supplies. The third part is well covered by the hills, the small streams, and the forts that defend it. It is a good frontier, it even permits a diversion into Spain by the sources of the Segre.

§ IV.—WATERSHED OF THE BAY OF BISCAY.

This watershed is formed:—1, by the northern slope of the Pyrenees from Figuier Point to the Pic de Corlitte; 2, by the western slope of the range of mountains composing the water-parting from the Corbières to Mont Moresol, intersecting the Côte d'Or and Morvan Mountains; 3, by the southern slope of a series of small hills or low table-lands separating the Bay of Biscay from the English Channel, which terminate at Cape St. Matthew in the Peninsula of Brittany.

It comprises:—1, *the basins of the Nivelle and Adour*; 2, *the basin of the Garonne*; 3, *the basins of the Seudre, Charente, Sèvre, &c.*; 4, *the basin of the Loire*; 5, *the basins of the Vilaine, Blavet, &c.*

I.—Basins of the Nivelle and Adour (see ante, p. 120).

II.—Basin of the Garonne (see ante, p. 123).

III.—Basins of the Seudre, Charente, Sevre, &c.

This collection of small basins is bounded on the south the low hills of Perigord, which join the Limousin mountai

near the sources of the Tardouère and Dronne, and on the north by a range of rather high hills which come from the same point, run from S.E. to N.W. under the name of *Collines du Poitou* and *Plateau de Gatine*, and spread out into a plain towards the mouth of the Loire. This small chain has an average height of only 492 feet; its culminating point is the *Mont des Alouettes*, near Les Herbiers, only 984 feet high. It is by these low hills, which admit of an easy passage between the basins of the Garonne and Loire, that the attacks of the south upon the north have been made; and the interposed plains of Poitou have thus been the theatre of great battles: battle of Vouglé between the Visigoths and Franks, of Poitiers or Tours between the Franks and Saracens, of Poitiers between the Black Prince and King John, of Moncontour between the Catholics and Protestants, &c. In the basin of the Garonne we mentioned the roads that cross the southern enclosing hills; the following are those of the northern enclosing hills:—1, from Limoges to Angoulême; 2, from Poitiers to Angoulême: it is skirted by the Bordeaux railway; 3, from Poitiers to Saintes; 4, from Saumur by Thouars and Niort to Saintes; 5, from Nantes by Montaigu and Luçon to La Rochelle; 6, from Nantes to Sables d'Olonne.

General Aspect.—These small basins form a flat country whose coasts are covered with salt lakes and marshes, but whose interior, interspersed with high hillocks and sandy plateaus, is rich in corn-fields, pasture-ground, and vineyards. Some parts are covered with barren heaths and thickets, but as a rule the country is rich and well cultivated.

Coasts and Islands.—The seaboard is generally low, sandy, or covered with marshes; the parts that are fringed with chalk cliffs are eaten away by the sea; there are numerous bays, shallow and difficult of access, and large islands which look like remains of the ancient coast.

1. The island of *Oleron* is 15 miles long by 5 miles broad; it is low and covered with salt marshes; lying opposite the mouth of the Seudre and Charente, it covers the entrance to both these rivers, and is defended by the Castle of Oleron, the forts of Boyardville and Les Saumonards, and the fort Boyard, situated on a bank near Oleron and the island of Aix. The strait that separates Oleron from the mainland is called *Passe de Mau-*

musson ; it is difficult and only accessible to small vessels. The strait that separates Oleron from the island of Rhé is the *Pertais d'Antioche,* practicable for the largest ships.

2. The island of *Aix* is ½ mile long by ¼ mile broad ; it is fringed with rocks, and serves as a defence to an excellent roadstead situated betwixt it and the coast, where the vessels of war of Rochefort can always find shelter, and where the ships built in this town come to complete their armament. In these roads an English fleet destroyed a French squadron in 1809 ; it is now protected by the defences of the island of Oleron, by fort Boyard which ought to make it unapproachable, by forts *Enet, Aiguille,* and *Fouras,* situated on the coast near the entrance to the Charente.

The island of *Rhé,* separated from Oleron by the *Pertuis d'Antioche,* and from the mainland by the *Pertuis Breton,* is 15 miles long by 2 miles broad. Its soil, low and sandy, contains salt marshes. On it lies ST. MARTIN, seaport and fortified town, whose citadel is connected with the forts of PRÉE, MARTRAY, and SABLONCEAU, and forms with them an important stronghold. This town was fruitlessly besieged by the English in 1628.

4. The island of *Dieu* is a granite rock of 14,826 acres in extent, inhabited by fishermen, and defended by a fort and batteries ; taken by the English in 1795.

5. The island of *Noirmoutiers* has a superficial extent of 5¾ square miles ; it is defended by a castle. It is a rock covered with sand, of difficult access, and separated from the mainland by an arm of the sea 3 to 4 miles broad, fordable at low tide. Noirmoutiers was one of the chief strongholds of the Vendeans.

6. The island of *Pilier,* a rock defended by a fort.

Seaports.—1. LE CHAPUS, a small harbour of passage for the island of Oleron, defended by a fort.

2. BROUAGE, on the Passe de Maumusson. Its harbour, formerly flourishing, has been choked up with mud, and the town has in consequence become very unhealthy, and is almost deserted.

3. LA ROCHELLE, facing the island of Rhé, chief town of the department of Lower Charente, was fortified by Vauban. Its works consist of 19 bastions with their curtains, 8 demi-lunes,

a ditch and a covered way. This town has lost much of the importance it possessed in the seventeenth century, when the Protestants made it their stronghold, and it held in check all the French forces in the famous siege of 1628. The harbour is defended by two towers; it has got choked up with ooze, and is only of second-rate importance.

4. Sables d'Olonne, a small harbour defended by fort St. Nicholas and some batteries.

Rivers.—1. The *Seudre* rises in the last heights of the enclosing hills of the Gironde, runs from S.E. to N.W., is navigable up to Saujon, and ends opposite Oleron, near Marennes, a small commercial seaport.

2. The *Charente* rises at Cheronnac, in the Limousin mountains; it runs first from S.E. to N.W. and washes Civray; then it flows from north to south as far as Angoulême, the ancient capital of the Angoumois, chief town of the department of Charente; this town lies on a plateau that crowns the union of the Charente with two of its tributaries. At 5 miles distance N.E., lies Ruelle, a marine cannon foundry.—Thence the river turns westwards, flows through a rich valley, waters Jarnac (battle of 1569, between the Protestants and Catholics);—Cognac, birthplace of Francis I.; Saintes, ancient capital of Saintonge;—Taillebourg (battle of 1242, won by Louis IX. over Henry III.);—Tonnay-Charente, a very busy commercial port; Rochefort, on the right bank of the river, at 9 miles from its mouth, a first-class military port, founded by Louis XIV., fortified by Vauban, the seat of a maritime prefecture, comprising the harbours and coasts of the Atlantic from the Pyrences to Paimbœuf; it is an excellent harbour of refuge and outfit for ships of war, and it covers Nantes and Bordeaux; we have already mentioned that ships can only receive their armament from Rochefort in the roadstead of the island of Aix.—The mouth of the river is defended as far as Rochefort by nine forts, the principal of which are *Vergeroux*, *Lupin*, *La Pointe*, and *Fouras*, besides some batteries. Its course is 199 miles long. It is naturally navigable as far as Saintes, and artificially by means of 27 locks as far as 9 miles above Angoulême. The tide goes up as far as Saintes.—It has the following tributaries: 1, on the left, the *Touvre*, which is navigable for boats almost to its source, and

seems to be formed by the reissue of several streams, such as the *Tardouère* and the *Bandia*, which become lost in subterranean clefts some miles higher up; it swarms with fish and never freezes; 2, on the right, the *Boutonne*, which is navigable at St. Jean d'Angely, memorable for the sieges of 1570 and 1621.

3. The *Sèvre-Niortaise* rises in the plateau of Gatine, washes Niort, chief town of the department of the Two Sevres, where it is navigable, and after a course of 106 miles, ends in the creek of Aiguillon, below Marans, a small commercial seaport.—It receives the *Vendée*, which rises in the same plateau, is navigable to Fontenay (battle of 1793, won by the Vendeans), and ends above Marans.

4. The *Lay* rises in the same plateau, runs from N.E. to S.W., leaves on its left Luçon (battle of 1793, lost by the Vendeans), and receives the *Yon*, which washes Napoleon Vendée, chief town of the department of Vendée.

5. The *Vie* runs through no place of any interest, and ends at the small seaport of St. Gilles.

6. The *Falleron* runs by Machecoul, celebrated in the Vendean war, and ends by several branches which form the island *Bouin*.

The basins of the Sèvre-Niortaise, Lay, Vie, &c., together with those of the last tributaries of the Loire, form the country commonly called Vendée. Its framework is made up of the heights of Gatine, the water-parting of which is nowhere distinct; it presents different terraces of low hills, furrowed by ravines and narrow valleys, with few and muddy streams; it is an inextricable complication of heaths, brooks, heights, hollows, and small plains, having no connection among each other, and where there seems to be no general plan of slope. The country is covered with trees and yet has no forests; all the fields, meadows, and dwellings are surrounded by quickset hedges, supported by trees thickly but irregularly planted, and bordered by deep ditches; forming regular redoubts. Paths made betwixt two hedges and two perpendicular sided ditches, narrow, deep, shady, muddy, or rough, according to the season, often serving as bed to a stream, impracticable to pedestrians and carriages, and forming a number of intersecting ways; no highways, no large towns, some market-towns scantily peopled, scattered

villages, properties very much subdivided, houses concealed by the hedges, and bridle-paths all exactly alike; inhabitants of pure but ferocious manners: all these circumstances combine to make this country a real labyrinth, eminently adapted to civil war, by which it has been horribly devastated. It is divided into three parts: the *Marais*, which comprises all the seaboard, covered with sand, pools, and salt-marshes, cut up by canals, ditches, and dykes, destitute of drinking water, but abounding in good pasture land, climate warm and moist; the *Bocage*, covered with small woods and heaths, very rugged, very much cut up, very well cultivated, climate cool and moist; the *Plaine*, very rich and fertile in grain, wine, &c., climate healthy and dry.

The basins of the Seudre, Charente, Sevre, &c., comprise the four following departments:—*Charente* and *Lower Charente*, which belong to the 14th military division; *Two Sevres* and *Vendée*, which belong to the 15th.

4.—BASIN OF THE LOIRE.

This basin is formed: 1, by the northern slope of the Margeride, Auvergne, and Limousin mountains, and Poitou hills; 2, by the western slope of the Vivarais, Lyonnais, Beaujolais, and Charolais mountains; 3, by the southern slope of the line of heights between the Loire and Seine.—General direction, from S.E. to N.W.; length, 447 miles; greatest breadth, 248 miles.

1. **Enclosing Mountains.**—The N.E. slope of the Margeride and Auvergne mountains presents the same character as the S.W. slope. These last mountains throw off at first very short spurs, one only of which is remarkable; it is the chain of the *Dômes* mountains, which commences at Mont Dore and is the real continuation of the Auvergne mountains; it extends between the Sioule and the Allier at an average height of 3,938 feet, and is composed of a series of 60 truncated cones of volcanic origin, whose craters are still gaping. Two principal roads cross it; from Clermont to Mauriac by the Col de Lamorino (3,526 feet); from Clermont to Limoges by the Col des Goules (3.312 feet). In the centre of this row of volcanoes rises the *Puy de Dôme* at a height of 4,815 feet above the level of the sea; it is a mountain of wonderful fertility, and a magnificent panorama may be

seen from its top. The other spurs of the Auvergne mountains, as also those of the Limousin mountains, run to great lengths between the tributaries of the Loire, but they are not so high; between the Allier and Cher their greatest height is 2,132 feet; between the Creuse and Vienne they rise to a height of 2,788 feet. The small detached slopes of the plateau of Gatine constitute the roughest part of the Bocage.

2. The *Vivarais*, *Lyonnais*, *Beaujolais*, and *Charolais* mountains, which are also improperly called *Northern Cevennes*, run almost due north, from Mont Lozere to the water-parting of the Central Canal (1,007 feet), a length of 155 miles, 62 of which are for the Vivarais mountains as far as Mont Pilat, 37 for the Lyonnais mountains as far as Mont Tarare, 21 for the Beaujolais mountains to the sources of the Azergues, and 34 for the Charolais mountains. Their height decreases from south to north: the *Gerbier de Joncs*, where the Loire rises, 5,123 feet high, and Mont *Mezenc*, 5,820 feet high, are the culminating points of the Vivarais mountains; their average height is 3,936 feet; Mont *Pilat*, which is 3,517 feet, and *Haute-Joux*, which is 3,260 feet high, are the culminating points of the Lyonnais and Charolais highlands; their average height is from 2,624 to 1,968. This long chain is not very thick and throws off only very short branches, because it is hemmed in on the right and left by the Loire and Rhône, which are only from 15 to 19 miles distant from one another. The branch that runs from the sources of the Loire, and separates that river from the Allier under the names of *Velay* and *Forez* mountains, is an exception; it is nearly 124 miles long, and has an average height of 3,280 feet; it abounds in the most picturesque spots and the loveliest valleys. Its culminating point, Mont *St. Pierre sur Haute*, is 5,360 feet high.

The northern Cevennes are crossed by few roads: 1, from Le Puy to Lyons by St. Etienne; 2, from Roanne to Lyons by Tarare; 3, from Charolles to Macon.

3. To the north of the Central Canal, between the sources of the Bourbance (tributary of the Loire), and those of the Dheune (tributary of the Saône), there commences a series of hills called *Côte d'Or*, from which, at Mont *Moresol* (1,837 feet), near the sources of the Arroux and Armançon there is detached a succession of heights, which run first in a semicircular form

round the Arroux, and are called *Montagnes du Morvan;* they form a very rugged country 37 miles long and 19 broad; their mean height is 1,640 feet; their culminating point, Mont *Prenelay*, is 2,847 feet high. These heights then run from S.E. to N.W., hugging the Loire, and expanding northwards into a broad and low plateau; their greatest height does not exceed 590 feet. Opposite the most northern point of the Loire, at Orleans, this ill-defined line of slopes recedes from the river to the N.W.; it runs in that direction up to the sources of the Orne and Vire, which it separates from those of the Sarthe and Mayenne, under the name of *Collines du Perche*, from 1,000 to 1,300 feet in height; it then returns towards the S.W. as far as the small plateau of Ernée, where the Vilaine and Couesnon rise, and then commence the *Hills of Brittany* or *Menez*, which run from east to west as far as Mont *Menebret*, where a tributary of the Aulne rises. At this point the chain divides into two branches, *Arrée Mountains* to the north, *Black Mountains* to the south; the latter terminate at Raz Point, the former at Point St. Matthew, enclosing between them all the streams which fall into the bays of Douarnenez and Brest. The greatest elevation of the Brittany heights does not exceed 1,312 feet.—This series of heights, which extends to more than 373 miles, is crossed by numerous roads: 1, from Châlons to Nevers by Autun; 2, from Auxerre to Nevers; 3, from Fontainebleau to Gien by Montargis; 4, from Paris to Orleans; 5, from Chartres to Orleans; 6, from Chartres to Tours; 7, from Chartres to Angers by Le Mans; 8, from Caen, by Alençon and Le Mans, to Tours; 9, from Caen, by Alençon and Laval, to Angers; 10, from Rennes to Angers; 11, from Rennes to Nantes; 12, from Brest to Nantes. It is also crossed by the railways from Paris to Orleans, from Chartres to Tours, from Chartres to Angers, from Rennes to Angers, from Rennes to Nantes, &c.

General Aspect.—This basin, the largest and most fertile in France, presents very various aspects; in the south, narrow and hilly, it is intersected by rich valleys and rocky, sterile districts; in the centre, it is made up of low valleys and splendid plains, with tracts of sand and heath interposed; in the west, the country is diversified, rich, fertile, and well cultivated.

Coasts.—On the south the coasts are very indented, rather

low and marshy; on the north they abound in deep and jagged bays, and rise up in cliffs and masses of granite, against which the waves break and cause many shipwrecks. Nothing can be more imposing or wilder than this rugged coast, with its deep excavations, its capes constantly battered by the waves, its girdle of reefs and rocks. Its most remarkable projections are: the peninsula of *Quiberon*, defended by fort PENTHIEVRE, celebrated for the attack and defeat of the emigrants in 1795; the point of *Penmarch*; the point of *Raz*; the point of *Chèvre*; the peninsula of *Quelern*, fringed with forts and batteries, which are the principal defence of the Brest roadstead; cape *St. Matthew*, the most western point of France. The bays are those of *Bourgneuf*, *Morbihan*, *Forêt*, *Audierne*, *Douarnenez*, *Brest*.

Seaports and Defences.—1. LE CROISIC, near the mouth of the Loire.

2. VANNES, on Morbihan Bay, chief town of the department of Morbihan.

3. PORT LOUIS, with a strong citadel, at the entrance to Blavet Bay.

4. LORIENT, a military seaport and stronghold, seat of a maritime prefecture that embraces the coasts and ports of the Atlantic from Paimbœuf to Quimper, with a school of practical naval engineering. It is an offshoot of Brest. It is situated in Blavet Bay, at the mouth of the Scorf.

5. A series of forts and redoubts, mainly designed to defend the approaches of Lorient; redoubts of *Pouldu*, forts of *Loch* and *Talut*, batteries of *Loqueltas* and *Quernevel*.

6. CONCARNEAU, small seaport defended by batteries.

7. CAMARET, small seaport in the southern part of the peninsula of Quelern, memorable for the defeat of the English in 1694.

8. BREST, first-class military port, the largest in France, seat of a maritime prefecture which embraces the Atlantic coasts and ports from Quimper to Cherbourg; head-quarters of engineering, artillery, naval architecture and naval artillery; special naval school; stocks for building ships, and graving docks, arsenal, park of artillery, immense magazines for naval stores, &c. It is a first-rate fortified town. The town is situated on the north coast of a large bay that forms its roadstead, and into

which the rivers Aulne, Elorn, and Penfeld fall. The harbour, formed by the mouth of the *Penfeld*, can hold fifty ships of war; it is defended by formidable batteries, and by a celebrated and very ancient citadel composed of five enormous towers, connected together by curtains; in addition to its enceinte, the town has nine large detached works. The roadstead communicates with the sea by the strait of Goulet, which is 5,412 ft. broad, but which is narrowed by the rock *Mingan* and some reefs, and cannot be passed by a hostile fleet; it is 93 square miles in extent, and could contain 1,000 ships of war; proceeding from the point of Camaret, it is defended by the *lines of Quelern*, the battery *Tremet*, the forts of the *Pointe du Diable* and the *Capucins*, the forts of *Cornouailles*, and the *Pointe des Espagnols*. All these defences belong to the peninsula of Quelern; the two last protect the Goulet on the south; then the roadstead is defended by the forts of the *Ile Longue* and *Lanveoc*, on the south coast, by the forts of *Armorique* and *Corbeau* in the peninsula between the Elorn and the Faou; then come the works of Brest; finally, the roads are defended on the north side as far as Cape St. Mathew by the forts *Porzic*, *Delec*, *Mingan*, *Menou*, *Toulbroch*, and the castle of *Berthaume*, in front of the Goulet.

Islands.—A large number of islands fringe the coast; the greater number are mere reefs and uninhabitable rocks; but some of them are of considerable size.

1. *Belle Ile* is 15 miles long and 5 broad; the town, called Le Palais, with its citadel forms an important stronghold; it is, besides, defended by batteries and the small islets of *Houat* and *Hoëdic*, which are fortified; it was taken by the English in 1761, and fruitlessly assailed by them in 1795.

2. Island of *Groix*, facing Lorient, important from its situation; it is a very high rock, with a population of sailors; it is defended by fort Lacroix, and was taken by the English in 1696.

3. Islands of *Glenans*, reefs facing the rocks of Penmarch, and defended by fort Cigogne.

4. Island of *Sein*, facing the point of Raz, in the midst of a labyrinth of dangerous passes and frightful reefs; it is celebrated as having been the abode of the Druids.

5. Island of *Ushant*, facing the most western points of Brittany;

it is surrounded by inaccessible rocks, and has no harbour. (Naval battles of 1778 and 1794, between the English and French.)

Course of the River.—The *Loire* (Ligeris) rises in the Gerbier de Joncs, at a height of 4,710 feet; flows from south to north among mountains of volcanic origin, where the water has deeply excavated its bed; it passes near LE PUY (2,050 feet), the ancient capital of Velay, chief town of the department of the Upper Loire, a town situated in the centre of a basin of granite mountains, whose crests are studded with extinct volcanoes. It washes ST. RAMBERT, where it is navigable, and flows through an immense plain, which it frequently inundates; then it resumes its torrent-like character, and runs through a long ravine which leads to Roanne; then the valley opens out, and the plain is prolonged indefinitely throughout almost the whole course of the river, except some precipitous parts on the right bank.—From ROANNE, a commercial town, whence a railway runs to Lyons, the Loire, always parallel with its environing hills on the right, washes: DIGOIN, where the Central Canal commences, which joins the Loire to the Saône and the lateral canal to the Loire, with which river it runs parallel as far as Briare.—NEVERS, ancient capital of the Nivernais, chief town of the department of Nièvre;—LA CHARITÉ, whose bridge was renowned in the civil wars of the sixteenth century.—It passes near SANCERRE, famous in the same wars as the stronghold of the Protestants, and for the siege of 1575;—COSNE, where there is a forge for anchors for the navy;—BRIARE, where the canal joining the Loire with the Seine begins;—GIEN, battle of 1652;—JARGEAU, a town celebrated in the wars with the English. Thence it describes a segment of a circle from east to west, and washes ORLEANS (Aurelianum), the ancient capital of the Orleanais, chief town of the department of the Loiret, a position of the greatest importance in order to penetrate from the north to the south of France; the meeting point of the railways of Paris, the Centre, Bordeaux, and Nantes. This town is celebrated for the siege it sustained against the English in 1428, which was raised by Joan of Arc, and for that of 1563, during which the Duke of Guise was assassinated.—The Loire next washes BEAUGENCY, an ancient town, famous in the feudal wars;—BLOIS, chief town of the

department of Loir and Cher, famed for its castle, where the General Estates of 1588 were held; here commence the great dykes called *levées*, which serve for a road between Orleans and Tours;—AMBOISE, celebrated for its castle and the conspiracy of 1560;—TOURS (Turones, metropolis of Lugdunensis III.), ancient capital of Touraine, chief town of the department of Indre and Loire, and of the 18th military division;—SAUMUR, celebrated for its cavalry school, and its old bastioned castle, which is reckoned one of the fortresses; taken by the Vendeans in 1793. —It then forms several islands, whereon is situated the town of PONTS DE CÉ, which unites the two banks of the river by a series of causeways where the Angers road passes, a very important position, celebrated for the fights of 1620 and 1793.—Then it washes ST. FLORENT, where the Vendean army crossed the Loire in 1793;—ANCENIS, a small and much frequented port;—NANTES, a great commercial and ship-building port, at 30 miles distance from the sea, chief town of the department of the Lower Loire and of the 15th military division; population, 113,000. Its old castle is reckoned one of the fortifications of the place. It was attacked by the Vendeans in 1793.

Thence the Loire, now like an arm of the sea, washes INDERT, a small island whereon stands the great factory for the manufacture of the steam-engines for the government ships; it leaves on its right SAVENAY, battle of 1793, where the remains of the great Vendean army were destroyed. On its left bank is PAIMBŒUF, a decayed port where the large vessels going to Nantes discharge their cargoes; finally it ends between point MINDEN and ST. NAZAIRE, a harbour where immense works have lately been executed, and which is destined to become the *Havre* of the Loire; it can admit the largest ships of commerce and also of war. It is the advanced port of Nantes. The course of the Loire is 683 miles in length, navigable for 460 miles. This river has a sandy shallow bed, which makes its navigation difficult; its frequent inundations are only feebly provided against in the lower part of its course by dykes, whence one can enjoy the sight of the Loire flowing between two lines of rich fertile slopes covered with villages and orchards. From Orleans to St. Nazaire a railway runs alongside of it. As it divides France into two parts, it was of great importance in the

divisions that existed between the north and south of that country up to the seventeenth century, and especially in the religious wars. If no prejudice attached to the capture of the capital, it might by its rectangular course cover the south of France against invasions from the north and east, and serve as a basis of operations for resuming the offensive.

Tributaries on the Left.—1. The *Lignon* runs through a very picturesque country, and receives a brook that runs by MONTBRISON, the ancient capital of Forez.

2. The *Allier* (Elaver) rises in the range of Mont Lozère at a height of 4,667 feet; flows from south to north in a narrow and picturesque basin, formed on the right by the Velay and Forez mountains, on the left by the Margeride and Auvergne mountains; it runs by BRIOUDE, where it becomes navigable; near ISSOIRE, celebrated in the religious wars. It then flows through the plain of Limagne, one of the richest and most picturesque in France; washes VICHY, famed for its mineral waters and a military hospital;—MOULINS, ancient capital of Bourbonnais, chief town of the department of Allier, the birthplace of Villars; and ends below Nevers after a course of 230 miles; it is liable to great overflows, and is navigable for 149 miles.—It receives: 1, a mountain torrent which flows by CHATEAUNEUF DE RANDAN, before which Duguesclin was killed; 2, a brook that runs past CLERMONT-FERRAND, the ancient capital of Auvergne, chief town of the department of Puy-de-Dôme and of the 20th military division; 2½ miles south of this town is the mountain *Gergovie* (2,398 feet), where the capital of the Arverni was located, famous for the victory of the Gauls over Cæsar; 3, the *Dore*, which rises in the Forez mountains, and passes near THIERS; 4, the *Sioule*, which rises in Mont Dore, and flows through the most picturesque valley in Auvergne.

3. The *Loiret* rises in the park of a castle, 2½ miles from Orleans; it is navigable to its very source; its course is only 6 miles in length, in which it supplies many manufactories and mills.

4. The *Cher* rises in the Auvergne mountains, washes MONTLUÇON and ST. AMAND, two towns united by the Berry Canal, which connects the Cher with the Loire;—VIERZON, situated at the point of junction of the railways of Chateauroux and Nevers,

and where the river is navigable; it runs near Tours, and terminates opposite St. Mars, after a course of 217 miles, navigable for 96 miles. It is constantly changing its bed, is liable to dangerous floods, and receives the *Auron*, which runs past BOURGES (Avaricum, capital of Aquitania I.), the ancient capital of Berry, chief town of the department of Cher and of the 19th military division, and an artillery garrison.

5. The *Indre* rises in the spur which separates the Cher from the Creuse; washes LA CHATRE;—CHATEAUROUX, chief town of the department of Indre, with a factory of the carriages of the military train; it is navigable at CHATILLON, washes LOCHES, celebrated for its castle, passes by RIPAULT, famed for its powder mill and refinery, and ends below AZAY, after a course of 137 miles.

6. The *Vienne* rises in the plateau of Mille Vaches, runs at first from east to west in a difficult valley, washes LIMOGES (Lemovicum), ancient capital of Limousin, chief town of the department of Upper Vienne; it then turns to the north, washes CONFOLENS;—CHATELLERAULT, manufactory of small arms, where it is navigable; it ends below CHINON, famed for its old castle and as the residence of Charles VII., after a course of 237 miles. It receives: 1, the *Clain*, which runs by POITIERS, ancient capital of Poitou, chief town of the department of Vienne; battle of 1356, where King John was defeated and taken prisoner by the Gascons of the Black Prince. This river is only navigable for 5 miles, has a course 62 miles in length, and is joined by a brook which runs past VOUGLÉ, where Clovis defeated the Visigoths in 507; 2, the *Creuse*, which rises in the plateau of Mille Vaches, runs near GUÉRET, the ancient capital of La Marche, chief town of the department of Creuse, and ends below LA HAYE, the birthplace of Descartes. Its course is 124 miles long; it is only navigable for 10 to 12 miles, and is joined to the *Gartempe*, which flows by MONTMORILLON.

7. The *Thoué* washes THOUARS, taken by the Vendeans in 1793; it receives the *Dive*, which runs past MONCONTOUR (battle of 1569 between the Protestants and Catholics); it is navigable at Doué and ends near Saumur.

8. The *Sèvre Nantaise* rises in the plateau of Gatine; rapid and much shut in, it flows through the most intricate and

wildest part of the Vendée, washing CHATILLON (battle of 1793, won by the Vendeans);—TORFOU (battle of 1793, won by the Vendeans);—CLISSON, whose castle was renowned in the feudal and Vendean wars.—It terminates opposite Nantes, and receives on the right the *Moine*, which flows by CHOLET (battle of 1793, after which the Vendeans were obliged to throw themselves on the right bank of the Loire); on the left, the *Maine*, which flows by MONTAIGU (battle of 1793, won by the Vendeans).

9. The *Boulogne* washes ROCHE SERVIERE, a strong position in the thickest part of the Bocage; it flows through the lake of Grandlieu, when it takes the name of *Archenau*, and ends below Nantes.

Tributaries on the Right.—1. The *Furens*, a torrent whose water is excellent for tempering iron, has a basin abounding in iron mines and coal pits, and in its course of 7 miles it supplies the motive power to a hundred iron and steel manufactories: it runs past ST. ETIENNE, a large manufacturing town, chief town of the department of Loire, with a manufactory of small arms and a population of 92,000; it lies 1,804 feet above the sea level, at the point where the Loire and Rhone are nearest to each other, where the railways of Roanne and Lyons meet.

2. The *Arroux* rises in the Côte d'Or, flows by ARNAY-LE-DUC (battle of 1570) and AUTUN (Bibracte or Augustodunum, metropolis of the Ædui), now fallen to decay. It is a rocky river and navigable for 10 or 12 miles.

3. The *Nièvre* flows through GUERIGNY, where there are the important forges of *La Chaussade* for the navy, and ends at Nevers.

4. The *Mayenne* rises in the hills of Perche, washes MAYENNE, LAVAL, chief town of the department of Mayenne (battle of 1793, gained by the Vendeans); it flows through a highly diversified country, having the character and appearance of the Vendée, and is called *Maine*, after being joined by the Sarthe; it washes ANGERS, ancient capital of Anjou, chief town of the department of Maine and Loire, defended by an old castle which is still reckoned as a fortress, besieged by the Vendeans in 1793; it ends at Bouchemaine, after a course of 118 miles, navigable from Laval.—It receives the *Sarthe*, which washes ALENÇON, chief town of the department of Orne, is navi-

gable at LE MANS, ancient capital of Maine, chief town of the department of the Sarthe (battle of 1793, where the Vendeans were defeated), and ends below its confluence with the Loir, after a course of 137 miles.—The *Loir* rises in the plateau of Orleans, receives a tributary which runs near PATAY (battle of 1429, gained by Joan of Arc over the English), washes CHATEAUDUN and VENDÔME, is navigable at CHATEAU DU LOIR, washes LA FLÈCHE, important by its military college, and terminates after a course of 168 miles.—The Mayenne is navigable for 68 miles, the Sarthe for 71, the Loir for 70.

Political Divisions.—The basin of the Loire embraces the following 18 departments: *Upper Loire, Creuse, Upper Vienne*, and *Puy de Dôme*, which belong to the 20th military division: *Loire*, which belongs to the 8th; *Indre, Cher, Nièvre, Allier*, which belong to the 19th; *Loiret*, which belongs to the 1st; *Loir and Cher, Indre and Loire, Vienne, Sarthe*, which belong to the 4th; *Two Sèvres, Maine and Loire, Lower Loire*, which belong to the 13th; *Mayenne*, which belongs to the 16th.

5.—BASINS OF THE VILAINE, BLAVET, ETC.

1. The *Vilaine* rises in the plateau of Fougères, washes VITRÉ;—RENNES, ancient capital of Brittany, chief town of the department of Ille and Vilaine, and of the 16th military division, with an arsenal and artillery garrison; it ends below ROCHE BERNARD, by a wide mouth, after having received the *Ille* at Rennes, the *Oust* at Redon, the *Isac* between Redon and Roche Bernard. The Isac and Oust form, with the Blavet and Aulne, the canal from Nantes to Brest. The Vilaine is navigable for 87 miles.

2. The *Auray* flows by AURAY (battle of 1364) and ends in Morbihan Bay.

3. The *Blavet* runs past PONTIVY and HENNEBON, where it is navigable, and ends between Lorient and Port Louis in a large bay.

4. The *Odet* runs by QUIMPER, chief town of the department of Finistère.

5. The *Aulne* runs by CHATEAULIN, where it is navigable, to PONT DE BUY, government gunpowder mills, and ends in the bay of Brest.

The basins of these small streams form the southern part of the peninsula of Brittany; a great plateau 980 feet high, abounding in heaths and forests, broken by narrow valleys and bordered by granite hills. The incorporation of this province with France was most stoutly resisted, and it still retains numerous traces of its isolation; its people, a still flourishing remnant of the Celtic race, are very original in character, pure and somewhat wild in manners, with a lively spirit of independence and attachment to their country; they are chiefly devoted to maritime pursuits.

Political Divisions.—The basins of the Vilaine, Blavet, &c., contain the three following departments: *Ille and Vilaine, Morbihan, Finistère*, which belong to the 16th military division.

§ V.—WATERSHED OF THE ENGLISH CHANNEL.

It is formed: 1, by the northern slope of the heights between the Loire and Seine, from Mont Moresol to Cape St. Matthew; 2, by the northern slope of the Côte d'Or and of the plateau of Langres; 3, by the western slope of the Meuse hills, of the western Argonne, of the western Ardennes as far as Cape Grisnez. In form it is nearly an isosceles triangle, the apex of which is Cape St. Matthew, its base the line of heights between the Seine and Rhine, and the two other sides the line of heights betwixt the Seine and Loire and the Channel coast. It contains the basin of the Seine and several other small basins on the west and east of that river.

Encircling Mountains.—1. The northern watershed of the heights separating the Bay of Biscay from the English Channel is similar in character to the southern watershed; it is gentle, smooth, formed of broad low plateaus, and has very easy communications between the basins of the Seine and Loire. Of the ranges of small hills comprising its spurs we shall only mention that which runs from the plateau of Vire to form the framework of the peninsula of Cotentin.

2. The *Côte-d'Or* is composed of small hills running from S. W. to N. E., the greatest heights of which do not exceed 1,968 feet; its western slopes are pretty steep, covered with rich vineyards and crowned with trees. At Mont Tasselot,

near the sources of the Seine, it unites with the *Plateau of Langres.* This plateau is composed of elevated plains without any main ridge, deep valleys or apparent summits; its greatest height is 1,640 feet, and its general direction for 50 miles is from W. to E. as far as the sources of the Meuse. From it streams run in all directions: the Marne to N.W. towards the Channel, the Meuse to N. E., towards the German Ocean, the Saone to south towards the Mediterranean.—The Côte-d'Or and the plateau of Langres are crossed by very important roads, which connect Paris with the eastern frontier of France, and are celebrated in the invasion of 1814: 1, from Chalons, by Auxerre, Joigny and Melun, to Paris; it skirts the Yonne and Seine, and is the road from Lyons; 2, from Dijon by Montbard, Tonnerre and Joigny, when it unites with the preceding one: this road is now skirted by the railway from Paris to Lyons; 3, from Dijon by Chatillon, Troyes, Nogent, Montereau, Melun, to Paris, it skirts the Seine during almost its entire course; it is the road from Geneva; 4, from Vesoul, by Langres, Chaumont, Troyes, where it joins the last named; it is the road from Basel, and the chief route from the invasion of 1814.

3. At the sources of the Marne and Meuse a large spur is detached from the plateau of Langres and runs N. W., separating these two rivers; it is called the *Meuse Hills;* it offers natural obstacles and good positions; but it does not contain any fortified point, and its obstacles have neither depth, height, sequence, nor variety; its defence is consequently difficult; still it is very note-worthy as the third strategic line of France on the eastern side, and as a barrier to the natural direction of invasion from that side. Its roads are of great importance, affording communication from the basin of the Moselle, across that of the Meuse, into that of the Marne: 1, from Nancy by Bar le Duc to Chalons, and thence, skirting the Marne, to Paris. It is the road from Strasburg; the railway from Paris to Strasburg runs alongside of it; 2, from Metz to Bar le Duc. The length of this branch is from 40 to 45 miles, its breadth from 10 to 12 miles, and its mean height from 1,148 to 1,312 feet.

The Meuse hills are continued by means of the *Forest* or *Plateau* of *Western Argonne*, between the Aisne and Meuse: its height is 984 feet; it separates the fertile country of the Three

Bishoprics from Champagne "Pouilleuse," an arid country whose chalky soil contains neither meadows, trees, nor water. Its borders are rich in pasture grounds and well peopled; but in its interior it contains a complication of precipices, ravines, ponds, and woods, through which a few roads run, celebrated in 1792: 1, from Verdun by Clermont in Argonne and St. Menehould to Chalons: this is the road from Metz and Mayence; between Clermont and St. Menehould it passes through the defile of *Islettes;* in front of St. Menehould is the position of VALMY; 2, from Dun by Varennes to St. Menehould, through the defile of *Chalade;* 3, from Stenay by Grand Pré to Autry, through the defile of *Grand Pré;* 4, from Stenay by Buzancy to Vouziers, through the defile of *Croix au Bois;* 5, from Sedan to Vouziers, through the defile of *Chêne populeux.*—In 1792, Dumouriez threw his army into these defiles when the news reached him of the passage of the Meuse by the Prussians. Turned by the defile of Croix au Bois, which was seized by the Prussians, he retired to before St. Menehould, with the defile of Islettes in his rear, permitting the enemy to possess the Chalons road, and in this singular position, with his face to Paris, whilst the enemy had his face to the Rhine, the cannonade of Valmy commenced, the effect of which was to compel the Prussians to evacuate France. These defiles have lost almost all their importance since the wood on the slopes of Argonne has been cut down and its clayey soil drained and cultivated. In 1814, when Macdonald's army retired before the Prussians in order to cover the artillery park of Chalons, the defence of the country was entrusted to the inhabitants, who formed themselves into companies of irregulars and resolved to make a vigorous resistance; but Blücher caused the defiles to be turned on the south by the St. Mihiel and Bar-le-Duc road, on the north by the Bouillon road between Mezières and Rocroy, and he thus arrived unimpeded on the Marne.—The length of the plateau of Argonne is from 31 to 34 miles, and its breadth from 5 to 7 miles.

The Argonne plateau joins the *western Ardennes,* or series of plateaus, 1,148 feet in height, which look like ranges of hills with precipitous borders; their surface is furrowed by shallow valleys, and their terraces interposed between these valleys are covered with heath and boggy marshes called *fagnes.* The

Ardennes run from S.E. to N.W. for 37 miles, to near the sources of the Somme and Escaut. Then the chain bifurcates: the southern branch runs through Picardy and Normandy, with an average height of barely 300 feet, and terminates at Cape la Hève, after having thus separated the basin of the Somme from that of the Seine; the northern branch continues the boundary of the watershed of the English Channel, and, under the name of *Collines d'Artois*, which are scarcely 500 feet high, it terminates at Cape Grisnez on the strait of Dover.—These small hills and the Ardennes which precede them, are crossed by many roads, which connect Paris with the N.E. frontier of France. The following are the principal ones:—1, from Mezières to Reims by Réthel; 2, from Maubeuge, by Avesnes, Vervins, Laon and Soissons to Paris: this is the road from Mons, Brussels, and Antwerp; 3, from Lille, by Douai, Cambrai, and Peronne to Paris; 4, from Lille, by Arras, to Amiens and Paris: it is now skirted by the Northern Railway; 5, from Dunkirk, by Aire, Doulens, and Amiens to Paris; 6, from Boulogne, by Amiens and Abbeville, to Paris: it is now skirted by a railway.

General Aspect.—This watershed displays a softly undulating country, without any striking natural features; the valleys are shallow and gently sloping, the streams sluggish and their beds even; it is crowned by low plateaus; it is everywhere open, and has scarcely any enclosing belt: it is the most civilized country in the world, the centre of European activity, one of the richest and most fertile parts of France.

Coast.—The coast forms two bays: that of *St. Malo*, between the peninsulas of Brittany and Cherbourg; that of the *Seine*, between the peninsula of Cherbourg and the point of Havre. In the peninsula of Brittany it is fringed with granite rocks of great height and often battered by storms; it contains many islands and reefs, and is indented by numerous creeks. In the peninsula of Cherbourg it is generally composed of cliffs which extend to the mouth of the Seine, and in front of these, between the Vire and the Orne, stands a belt of reefs called the *Calvados* rocks. From the mouth of the Seine to that of the Somme it still consists of high cliffs, incessantly worn away and reduced to shingle by the action of the sea; finally, from the mouth of the Somme to Cape Grisnez it is low, sandy, straight, abounding

in sandbanks, broken only by shallow harbours, fringed with arid and wild sand hills which give it a dreary appearance, and which are from 2 to 2½ miles in breadth.—The principal capes are those of *Sillon*, *La Hague*, *Barfleur*, *La Hève*, &c.; the bays are those of *St. Brieuc*, *Cancale*, *Grandcamp*, *Cayeux*, &c.

Principal Islands.—1. Island of *Batz*, a rock 2½ miles long and 2 broad, defended by a fort and batteries; it is inhabited by seafaring people, and its channel offers an excellent roadstead in front of the bay of Morlaix.

2. The *Seven Islands*, a group of uninhabited rocks, situated in front of the haven of Perros; one of these, the *Ile aux Moines*, is defended by a fort and batteries.

3. *Bréhat*, an island 3 miles long and 2 broad, with a seafaring population, and the only point of the coast between Brest and St. Malo where men-of-war can enter. It is defended by a fort and batteries.

4. *Jersey*, 10 miles long by 5 broad; its town, St. Helier, is a free port; its approaches are defended by towers and batteries. It belongs to Great Britain.

5. *Guernsey* is of the same size; its harbour is defended by a citadel built on a rock, and by several forts. It belongs to Great Britain.

6. *Alderney* or *Aurigny*, is 7 miles in circumference and belongs to the British, who are constructing on it works of considerable strength to oppose the new Gibraltar at Cherbourg, which is only a few hours distant.

Under the British rule these islands enjoy almost absolute independence; they govern themselves, are exempt from military service, &c. French is spoken there. These islands are the remains of the possessions of the Norman kings of England; they are of great importance in consequence of their proximity to the French coast.

7. *St. Marcouf*, a group of 3 uninhabited islands, protected by a fort; they form a sort of breakwater in front of the roadstead of La Hougue. The British established themselves there in 1795, thus cutting off the communication betwixt Havre and Cherbourg; they gave them up in 1802.

Seaports and Coast Defences.—1. Fort Céson, situated on a reef and defending the bay of *Abervrach*, where large ships

can ride at anchor.—2. Castle of TAUREAU, defence of the Morlaix roads, on a reef.—3. MORLAIX, a flourishing commercial port, with a roadstead accessible to the largest war ships.—4. PERROS, a commodious haven, much frequented by the largest vessels in the time of war.—5. TREGUIER, a small port 5 miles from the sea, on two streams; its roadstead can give shelter to ships of war; burnt by the Spaniards in 1592.—6. PAIMPOL, a well-sheltered harbour, available by small ships of war.—7. ST. BRIEUC, on the Gouet, 2 miles from the sea, chief town of the department of Côtes du Nord; its harbour is 1 mile lower down, at *Légué*.—8. Castle of LA LATTE, built on a cape and defending the bay of Fresnay.—9. ST. CAST, a village celebrated for the landing and defeat of the English in 1758.—10. ST. MALO, on the island of Aron, at the mouth of the Rance, a very important seaport, of difficult access owing to the reefs that guard its entrance, but large, safe and commodious; the roadstead, lying to the west and outside the mouth of the Rance, is very good, and is defended by seven forts, the chief of which, the *Conchée*, lying 5 miles out at sea on an inaccessible rock, was built by Vauban; it is connected with fort *Harbourg*, constructed on a small island near the coast. The town is surrounded by strong bastioned walls and defended by a castle. It still does a large trade, and contains a population of excellent sailors; but it has fallen considerably from the prosperity it enjoyed in 1622, when it armed 22 ships at its own cost, and in 1711, when it lent 30 millions to Louis XIV.; it was bombarded in 1693 and 1695 by the British, and unsuccessfully attacked by them in 1758. It is the birthplace of Jacques Cartier, Duguay-Trouin, La Bourdonnaye, and Surcouf.—11. ST. SERVAN, at the mouth of the Rance, and separated from St. Malo by sands 1 mile in breadth, covered by the sea at high tide; it has a very commodious and safe harbour; chief town of a maritime district; it contains dockyards for the navy. It was destroyed in 1758 by the British, who had effected a landing in the bay of Cancale.—12. CANCALE, a fishing town at the head of a bay defended by fort *Rimains*, built on a rocky islet.—13. MONT ST. MICHEL, an ancient fortified abbey on an isolated rock 410 feet high, at the head of the bay of Cancale, in the middle of a large expanse of sands, 1 mile from the shore, covered by the sea at high tide,

and whose shifting sands are crossed by several streams; it is a state prison.—14. GRANVILLE, a small very busy seaport and fortress, on a precipitous rock at the mouth of the Bosc, burnt by the British in 1695 : it was besieged in 1793 by the Vendeans, and was the extreme limit of their expedition beyond the Loire.—15. Forts VANVILLE and QUERQUEVILLE, on the west and east of the peninsula of La Hague.—16. CHERBOURG, at the head of the bay formed by Capes La Hague and Levi, at the mouth of the Divette, with two harbours, one military, the other commercial, completely separated from one another. It is the seat of a maritime prefecture embracing the harbours and coasts of the Atlantic as far as Dunkirk; the town is defended by Fort Roule and by redoubts; the arsenal and military harbour, composed of three basins hollowed out of the rock, are surrounded by a bastioned enceinte; this harbour can hold 50 ships, and at low tide has 30 feet of water. The roadstead has good anchorage; it is defended on the east by *Fort Royal*, situated on Pelée island, by *Fort Artois*, which covers the military harbour; on the west by *Fort Querqueville;* finally, by the three forts of the breakwater. It has a crescentic form, and can hold 400 ships. It is protected by an artificial breakwater running east and west, a gigantic work 12,360 feet in length, 262 broad at the base, 103 feet broad at the top, and 66 in depth below the water; this breakwater, which has only two passages between itself and the shore, one of 3,280 feet, the other of 7,544 feet, was commenced in 1784, and is but recently finished. It is the greatest hydraulic work ever accomplished by man; 58½ million cubic yards of stones have been thrown into the sea in order to form this artificial island. Cherbourg, situated in the centre of the Channel, fronting the military ports of England, at equal distance from Brest and Dunkirk, has, as Vauban said, an "audacious" position, the importance of which is at present incalculable.—17. LA HOUGUE, a small fortified seaport which protects an immense roadstead lying between the Bec bank, Cape La Hougue, and *Tatihou Isle.* Its defence is connected with that of this island, which is also fortified, and with that of the small port of ST. VAAST, which is protected by a battery. In 1692, Tourville, after a battle fought near the Isle of Wight, retreated to the oads of La Hougue with twelve ships, which were burnt by the

British.—18. HONFLEUR, on the left side of the mouth of the Seine, a small and flourishing seaport town of difficult access. —19. LE HAVRE, on the right side of the mouth of the Seine, with the largest import trade of any town in France It has a population of 75,000. Its ancient harbour has been enlarged by the addition of seven wet docks, which are capable of holding more than 1,500 vessels always afloat; in front of it is an excellent roadstead. Le Havre had formerly a bastioned enceinte constructed in the reign of Louis XIV., whereby it was rendered an important stronghold, but this enceinte has been destroyed in order to allow of the expansion of the town, and in its stead there have been erected two large forts on the heights of Ingouville and Ste. Adresse. In addition, the harbour is protected by a citadel and batteries. Since it has been connected with Paris by a railway, le Havre is the real port of the capital. Napoleon said of it, "Paris, Rouen, and le Havre form but one town, of which the Seine is the high street."—20. FÉCAMP, a small, very busy, and very safe seaport.—21. DIEPPE, a seaport the prosperity of which has greatly fallen off from what it was in the fifteenth century; the birthplace of Duquesne; bombarded and burnt by the British in 1694. The town and harbour are commanded by a bastioned castle.—22. TREPORT, a small port defended by batteries.—23. ST. VALERY, a small port at the mouth of the Somme defended by batteries.—24. BOULOGNE, a flourishing port, the ordinary route between France and England; it is defended by two forts erected in the sea, and is commanded by the upper town and its old castle. It was the principal place for the assemblage of the flotilla with which Napoleon intended to conquer Great Britain in 1804.

Rivers to the West of the Seine.—1. The *Rance* washes DINAN, a town fortified in ancient times, where the heart of Duguesclin is buried, and terminates at St. Malo. It is navigable for 7 to 10 miles. A canal connects it with the Ille.

2. The *Couesnon* flows near FOUGÈRES, an ancient stronghold celebrated in the feudal wars; it washes: ST. AUBIN DU CORMIER (battle of 1488, where the French beat the Bretons);—ANTRAIN (battle of 1793, won by the Vendeans);—PONTORSON, an ancient fortress celebrated in the feudal wars. It terminates in the sands of Mont St. Michel, and is only navigable for some 10 or 12 miles.

3. The *Sélune* has a tributary that runs by AVRANCHES, it ends in the sands of Mont St. Michel.

4. The *Sienne* runs near COUTANCES.

5. The *Douve* flows by ST. SAUVEUR LE VICOMTE, where it is navigable; it receives several tributaries, the largest of which, the *Taute*, navigable for 15 miles, washes CARENTAN, an ancient stronghold, whose fortifications are in a state of ruin.

6. The *Vire* washes VIRE;—ST. LÔ, chief town of the department of La Manche;—ISIGNY; and terminates in the large sands beside the Douve; it is navigable for 20 miles.

7. The *Orne* rises in the Côllines du Perche, washes SEÉZ, ARGENTAN, and CAEN, chief town of the department of Calvados, a commercial port with an old castle; 7 miles below this town, where it is navigable by means of a lateral canal, it terminates opposite the Calvados rocks.

8. The *Toucques* washes LISIEUX and PONT L'ÉVÊQUE; it is navigable from Lisieux for 17 to 20 miles.

Course of the Seine.—The *Seine* (Sequana) rises in the heights of the Côte d'Or, near Chanceaux, at a height of 1,463 feet; it runs from S.E. to N.W. and washes: CHATILLON, celebrated for the Congress of 1814;—BAR SUR SEINE;—TROYES, the ancient capital of Champagne, chief town of the department of Aube, very important from its position on the left of the river, and at the point of meeting of several roads in a large plain intersected by wooded marshes and brooks, where the Seine divides into several branches; the right bank has defensible positions, the best of which is that of the *Barce*, a brook that falls into the river below the town, and whose bridge (road from Troyes to Chaumont) was the scene of several fights in 1814. Troyes played a great part in this campaign; it was twice taken by the allies and once by the French.—On leaving this town the Seine washes MÉRY, where it becomes navigable; this town was destroyed in 1814 after a fight with the Prussians; it then flows from N.E. to S.W. from the confluence of the Aube to that of the Yonne, washing: PONT SUR SEINE, ruined in 1814;—NOGENT SUR SEINE, a town of great importance from its position at the point of meeting of the roads from Troyes and from Chaumont to Paris, and from its bridge, famous in 1814; it was besieged and almost destroyed in the fights of the 10th, 11th, and 12th

February; here also it was that Napoleon, eluding the pursuit of the Austro-Russian army, threw himself on the Marne in order to fight the army of Silesia.—The river next washes BRAY, a small town important on account of its bridge at the junction of the roads from Sens and Provins;—MONTEREAU, a town remarkable from its position at the confluence of the Yonne, and at the issue of the roads from Sens and Troyes to Paris. It is divided into two parts: the larger on the left of the Yonne, with a bridge over that river; the smaller on the Seine, with a bridge celebrated as being the scene of the death of Jean sans Peur; on the right bank of the Seine, to the north, is the suburb of St. Nicholas, which is commanded by the knoll of Surville, covered with wood and vineyards, where Napoleon beat the allies in 1814.—Montereau, Bray, and Nogent, are the pivots of the line of the Seine, between the Yonne and the Aube, and command all the outlets of the country between the Seine and Yonne. Napoleon reckoned on the resistance of these three points when he went off to the Marne to destroy the army of Silesia; but they were taken by the allies, thus causing him to hurry back again to fight the battle of Montereau, by which he caused them to retreat to the left bank.—From Montereau the river resumes its N.W. direction; it leaves on its left FONTAINEBLEAU, the castle of which is celebrated as the residence of Francis I. and the scene of Napoleon's abdication; then it washes MELUN, chief town of the department of Seine and Marne;—CORBEIL, important by reason of its magazines of grain for the supply of the capital, and its railway;—CHARENTON, at the confluence of the Marne. It leaves on its right VINCENNES, a fortress built by Charles V., unsuccessfully besieged by the allies in 1815, and reaches Paris.

PARIS (Lutetia Parisiorum), the capital of France, chief town of the department of the Seine and of the 1st military division, has a population of 1,700,000, and contains a great number of military establishments, such as the Polytechnic and Staff Colleges, the Hotel des Invalides, &c. This town is divided by the river into two parts, besides the islands. The south part, the smaller and the higher, forms a semicircle, of which the Seine is the diameter; it is protected on the east by the river, and on the south becomes lost in a broad plateau,

which, being continuous with the plains of Beauce, leaves it defenceless on this side, moreover, it may be turned on the west by St. Denis, Argenteuil, St. Germain, and Versailles. The north part, the largest and most important in a strategic point of view, is also a semicircle, whose diameter is the river; it is covered on the west by the Seine from Sèvres to St. Denis, on the east by the Marne, from St. Maur to Lagny, and on the north by a line of heights separating the streams running into the Seine near St. Denis from those which run into the Seine or Marne between St. Cloud and Lagny. This range of not very well-marked heights at first skirts the Marne in the form of undulating knolls, sinks to a plain between Rosny and Montreuil, rises again into the plateau of Belleville, sinks once more into the plain of St. Denis, becomes precipitous in the isolated hill of Montmartre, loses itself in the plain of Batignolles, and terminates in the slopes of Chaillot and Passy, which fringe the Seine and merge into the Bois de Boulogne. This is all nature has done for the defence of the metropolis of modern civilization; but insignificant though these heights seem, they offer the following military positions: 1, on the N.E. the *plateau of Belleville*, 460 feet high, and from 984 to 4,920 broad; it is intersected by woods, gullies, houses, streets, and gardens, and forms a steep bank on the ancient boundary of Paris by means of the hill of Chaumont, 377 feet high; Bagnolet and Charonne occupy the outlets on the east, Romainville on the north, Pantin and Prés St. Gervais on the west, where it is moreover defended by the Ourcq canal; 2, on the N.W. the *hill of Montmartre*, 426 feet high by 318 broad; it culminates on the ancient boundary of Paris, and forms a ridge precipitous on all sides, and with no easy ascent except on the side next the town; on the east and west the quarries dug in it render it inaccessible, and on the north the arrangement of its streets and houses make it a regular redoubt; it is so strong a position that if protected by artillery it could only be carried by a surprise. The heights of Montmartre and Belleville are divided by that great depression, the *plain of St. Denis*, a vast fertile expanse, without undulations, nearly destitute of trees, with few houses, and covered on the west by the Seine, on the east by the St. Denis canal, a branch from the Ourcq canal, falling into the

Seine after passing St. Denis. The plateau of Belleville, the hill of Montmartre, and the plain of St. Denis are the military positions that defend Paris; their importance was perceived in 1814 by the allies, who directed all their efforts against these three points, and it was there the battle was fought that led to the surrender of the capital of France to the confederated armies of Europe. We have no reason to apprehend such a disaster in future; since 1840 Paris has been fortified: 1, by a continuous enceinte embracing both banks of the Seine, bastioned and terraced with 30 feet of wall. This enceinte, which forms the new boundary of Paris, is 35,914 yards in length, of which 25,722 belong to the right bank and 10,192 to the left; on the right bank it runs beyond the ancient communes now annexed to Paris: Bercy, Charonne, Belleville, La Villette, La Chapelle, Montmartre, Batignolles, Les Ternes, Passy, Auteuil, Point du Jour; on the left bank beyond Vaugirard, Petit Montrouge, Petit Gentilly, Maison Blanche; 2, by exterior casemated works, the principal of which are, on the right bank: redoubts of St. Maur, forts of Nogent, Rosny, Noisy, Romainville, Aubervilliers, the works on the Ourcq canal, the works of St. Denis, consisting of the forts L'Est and La Briche, with the Double Crownwork of the north; on the left bank the fortress of Mont Valérien, the forts of Issy, Vanves, Montrouge, Bicetre, Ivry; the fort of Charenton, between the Seine and Marne.

The Seine on leaving Paris describes many and long sinuosities; it washes St. Cloud, a castle memorable for the death of Henry III. and for the revolution of the 18th Brumaire; it leaves on its left, at 5 miles distance, Versailles, a large and magnificent town, with a palace which was the residence of Louis XIV., Louis XV., and Louis XVI., the chief town of the department of Seine and Oise, the birth-place of Hoche; it is situated on the plateau that crowns the Seine below Paris, and might be used to turn the capital by the south. In 1815 the Prussians tried this road, and were beaten in the surrounding woods, at Velizy, and in the streets of the town. It contains a garrison of 10,000 men with a large park of artillery.—At 2 miles west of Versailles, on the road to Chartres, lies St. Cyr, a special military school.—The Seine next washes: Courbevoie,

infantry garrison;—St. Denis, celebrated for its old abbey, defended by three forts; battle of 1567 between the Protestants and Catholics; St. Germain, celebrated for its old castle, cavalry garrison;—Mantes;—Vernon, manufactory of the equipages of the military train;—Les Andelys;—Pont de l'Arche;—Elbeuf, celebrated for its cloths;—Rouen (Rotomagus, metropolis of Lugdunensis II.), ancient capital of Normandy, chief town of the department of the Lower Seine and of the 2nd military division, a large manufacturing town of 102,000 inhabitants; it was formerly very strongly fortified, and is celebrated for the sieges of 1417, 1562, and 1591. Trading ships sail up the river as far as this town, whose harbour is one of the busiest in France. A railway unites it to Paris.—Thence the Seine winds considerably, becomes much obstructed by sand-banks; its navigation is impeded by a dangerous bar; it washes Caudebec, grows much broader after Quillebeuf, and terminates between le Havre and Honfleur.—It is navigable from Marcilly for 300 miles, and its whole course is 400 miles in length.

Tributaries on the Left.—1. The *Yonne* rises in Mont Beuvray in the Morvan; it washes: Chateau Chinon;—Clamecy;—Auxerre, chief town of the department of Yonne, taken and pillaged by the Austrians in 1814;—Joigny;—Sens (Senones, metropolis of the Lugdunensis IV.) taken in 1814. It terminates at Montereau after a course of 124 miles, navigable from Auxerre.—It is a good line behind Troyes on Paris, because the roads from Troyes to Auxerre and to Sens are the only practicable roads for an army: besides the direction of this river being parallel to that of the Upper Seine, the country between the Seine and Yonne forms a sort of rectangle opened by the sources of the streams and closed by the Seine from Méry to Montereau. This country, which has a clay soil, and is covered with vineyards, is intersected by many streams, which run into the Yonne: 1, the *Cure*, which flows near Vezelay, celebrated for the Council of 1146, and near which Vauban was born; 2, the *Serain*, which washes Noyers, celebrated in the history of the sixteenth century; 3, the *Armançon*, which rises in Mont Moresol, washes Tonnerre, and is skirted by the Burgundy Canal; it receives the *Bresse*, which passes at no great distance from Alise. The district containing the sources of these tributaries

is, like the Morvan, much cut up, favourable to guerilla warfare. The Lyons railway follows the course of the Yonne and the Armançon for some distance, and crosses the Côte d'Or to the south of Mont Tasselot.

2. The *Loing* rises in the plateaus which fringe the Loire above BLENEAU, battle of 1652; it washes MONTARGIS and NEMOURS, and terminates below Moret. It receives the *Ouanne*, which flows near FONTENAY EN PUISAYE (Fontanetum), battle of 841 between the sons of Louis the Debonnair.—Three canals unite it with the Seine and Loire: 1, the Briare canal commences at Briare on the Loire, is 34 miles long, and goes as far as Montargis; it was undertaken by Sully, and opened in 1642; it is the oldest in France; in a military point of view it is but an indifferent obstacle, though its banks are pretty high; 2, the Montargis canal is merely the continuation of the Briare canal; it begins at Montargis, is 32 miles long, and terminates at St. Mamers on the Seine; it is a rather remarkable military line; it has few bridges, and is covered by the old bed of the river; 3, the Orleans canal commences at Combleux on the Loire and ends at Buges, on the Montargis canal; it is 45 miles in length.

The country between the Yonne and Loing is intersected by naked hills, woods, and ponds, destitute of communications, and not very fertile; beyond the canals lies the forest of Orleans, which is separated from that of Fontainebleau by a very difficult country, almost impracticable in winter.

3. The *Essonne* rises in the plateau of Orleans and ends at Corbeil. On this river the French army encamped in 1814, after the battle of Paris; and here Marmont's defection took place.

Between the Essone and the Eure there is nothing from Orleans to Paris but plateaus and plains intersected by small smiling and fertile valleys: this district which is very rich, especially in cereal productions, comprises a part of Beauce. Etampes, on the road from Orleans to Paris, and Chartres, on the road from Paris to Tours, occupy the extremities of this plateau on the east and west; Orleans and Versailles are at the two other extremities.

4. The *Eure* rises in the Perche hills; it washes CHARTRES, chief town of the department of Eure and Loir, becomes navi-

gable at MAINTENON; washes ANET, celebrated for its castle; —IVRY, battle of 1590, won by Henry IV. over the Duke of Mayenne;—LOUVIERS, famed for its cloths, and terminates, after a course of 62 miles, near Pont de l'Arche.—It receives: 1, the *Blaise*, which washes DREUX, remarkable for the tombs of the Orleans family: battle of 1562, gained by the Catholics over the Protestants; 2, the *Avre*, which washes VERNEUIL, battle of 1424, in which the English defeated the French;—COCHEREL, battle of 1364, gained by Duguesclin over the troops of Charles the Bad;. 3, the *Iton*, which washes EVREUX, chief town of the department of Eure.

Tributaries on the Right.—The *Aube* rises in the plateau of Langres; on its right bank lies BAR SUR AUBE, a town important by reason of its position on the road from Chaumont to Troyes; the theatre of two battles in 1814, by which it was almost entirely destroyed. It runs near BRIENNE, where the roads from St. Dizier and from Joinville to Troyes, and that from Chaumont to Chalons cross. The first of these roads, muddy and impracticable, passes through MONTIERENDER, and runs to the Aube at LESMONT; it was the route followed by Napoleon in 1814, when he commenced the campaign by issuing from Chalons upon Brienne, in order to prevent the junction of Blücher and Schwarzenberg; this gave rise to the battle of Brienne, which caused Blücher to fall back on LA ROTHIERE, a village on the right bank of the Aube, which is crossed by the DIENVILLE bridge, where a great battle was fought in which the French were defeated.—The right bank of the Aube, from its source to Lesmont, is high, steep, and commands the left bank, which is generally low; it forms a great plain, divided into marshy meadows and small plateaus, which is commanded on the east by the wooded heights of Morvilliers, and crossed by the road from Bar to Lesmont.—When the Aube reaches ARCIS it becomes navigable and forms islands and marshes; the town is built in a gently sloping valley on the left bank, which forms a defile of 1 mile in length on the road from Troyes to Reims; on the right bank there lies an impracticable marsh, crossed by a narrow causeway on which are five bridges, at the end of which the roads from Fère Champenoise, Chalons, and Vitry meet. This causeway was the theatre of a battle in 1814, after which Napoleon

performed his march by St. Dizier in the rear of the allies; the town was almost entirely destroyed. The Aube terminates between Méry and Nogent, after a course of 99 miles.

2. The *Yères*, a small stream which in 1814 served as the line of retreat of the French army after the Austrians had crossed the Seine at Montereau and Nogent; it terminates at VILLENEUVE ST. GEORGES.

3. The *Marne* (Matrona) rises in the plateau of Langres, and throughout almost the whole of its course runs parallel to the Upper Seine. It passes at the foot of LANGRES, a town lying at a height of 1,456 feet, and lately fortified, with a good citadel; it is a first-rate position for passing from the basin of the Saone into that of the Seine. It then washes CHAUMONT, chief town of the department of Marne, a town formerly fortified and very important on account of its position at the entrance to the plateau of Langres;—JOINVILLE, famous on account of the historian of St. Louis;—ST. DIZIER, an ancient stronghold taken by Charles V. in 1544, important on account of its iron trade, and its position at the point of union of the roads from Chalons, Bar le Duc, and Troyes.—Napoleon commenced the campaign of 1814 by a battle at St. Dizier (27th January), in order to prevent the junction of the armies of Blücher and Schwarzenberg; and he terminated the campaign by another battle at St. Dizier (20th March), in order to cut off the communications of the allies, who were advancing between the Seine and Marne; there he learnt that the enemy was before Paris.—From St. Dizier, where it becomes navigable, the Marne flows past VITRY LE FRANÇOIS, a stronghold which is the key to the interior of Champagne. It was built by Francis I. as a substitute for Vitry en Perthois, which Charles V. had destroyed in 1544; it was taken by the allies in 1814. The river then washes: CHALONS, chief town of the 4th military division, and of the department of Marne; battle of 451, when Attila was defeated by Aëtius; battle of 1814, and passage of the Marne by the Prussians;—EPERNAY, a town of importance in the wine trade;—CHATEAU THIERRY, taken by the Spaniards in 1544, 1591, and 1652; battle of 1814, when Napoleon defeated the remains of the corps of Sacken, which had previously been beaten at Montmirail; taken and retaken several times, and thrice sacked in the campaign;—FERTÉ SOUS

JOUARRE, battle of 1814;—MEAUX, ancient capital of Brie, divided into three parts by the Marne and a branch of that river; a stronghold of great importance in the middle ages, and which has stood several sieges, the most remarkable of which was that of 1420, now dismantled;—LAGNY, a town that furnishes supplies to Paris, celebrated in the campaign of the Duke of Parma against Henry IV.;—CHARENTON, defended by one of the forts of Paris, with a very important bridge. There the Marne falls into the Seine after a course of 236 miles

It receives: 1, the *Ornain*, which washes BAR LE DUC, chief town of the department of Meuse, and terminates after a course of 50 miles; 2, the *Petit Morin*, which leaves on its right CHAMPAUBERT, VAUCHAMPS, MONTMIRAIL, where Napoleon defeated the allies in 1814; it ends near Ferté sous Jouarre; 3, the *Ourcq*, which rises near FÈRE EN TARDENOIS, flows by FERTÉ MILON, and ends at LIZY.—Its water is used to feed a canal for conveying supplies to Paris, which starts below Ferté Milon, runs parallel to the Ourcq as far as Lizy, follows the course of the Marne to Charventray, crosses the champaign country between the Marne and Oise, and reaches LA VILLETTE, a suburb of Paris, formerly lying at one of its northern gates, but now included within its bounds. There it divides into two: the first, called *Canal St. Martin*, runs S.E. into the interior of Paris, and ends in the Seine, after a course of 15,092 feet; the second, called *Canal St. Denis*, runs N.W. across the plain of St. Denis, passes in front of that town, and joins the Seine, after a course of 21,325 feet. The Ourcq and its canal are of great importance for the defence of Paris; they served as the line of retreat for the French in 1814, and several battles were fought on their banks.—The last tributary of the Marne is the *Grand Morin*, which flows by FERTÉ GAUCHER (battle of 1814) and COULOMMIERS.

The Marne throughout its whole course, the Seine from its source to Montereau, that portion of the plateau of Langres comprised between the sources of these rivers, and the Seine from Montereau to Paris, form a long semicircular ribbon of from 38 to 50 miles in breadth, rather hilly towards the east, and intersected by the Aube, but opening up towards the west in a great dreary and naked plateau, only traversed by brooks.

In this plateau the separation of the Marne from the Seine is effected by a series of low hills, the chief issues of which are occupied by Villenoxe, Sezanne, Pont St. Prix, and Etoges. To the east of this line the country is flat and uniform, consisting of a heavy, cold, uncultivable soil, with a scanty and poverty-stricken population; to the west of this line we find a strong, fertile clay soil, and a rich and numerous population. All this district is watered by shallow sluggish streams; the Grand Morin and Petit Morin, tributaries of the Marne, and the Yeres, a tributary of the Seine, are the principal ones; they offer no obstacle to the operations of an army, but their valleys contain some very advantageous defensive positions. This district is crossed by four longitudinal roads: 1, from Paris to Strasburg by Meaux, Chateau Thierry, Epernay and Chalons, now skirted by a railway: this was the route taken by Blücher's army in its march on Paris; 2, from Paris to Chalons by Meaux, Ferté sous Jouarre, Montmirail, and Champaubert: this was the route taken by Blücher in his first march in 1814, when his army was destroyed by Napoleon in the battles of Champaubert, Montmirail, Chateau Thierry, and Vauchamps; 3, from Paris to Vitry by Lagny, Coulommiers, Ferté Gaucher, Sezanne, and Fère Champenoise: this was the route taken by the allies in 1814 in their last march on Paris, when they defeated at Fère Champenoise and Ferté Gaucher the corps of Marmont and Mortier: 4, from Paris to Nogent sur Seine by Brie Comte Robert, Mormans, Nangis, and Provins: this was the route taken by Schwarzenberg's army in its first march on Paris, when it was beaten by Napoleon at Mormans, Nangis, and Montereau. —These four roads, at all times good and practicable, are intersected by four cross-roads, which were very bad in 1814: 1, from Chalons to Troyes by Arcis; 2, from Epernay to Troyes by Vertus, Fère Champenoise, and Plancy; 3, from Epernay to Nogent by Montmirail, Sezanne, and Villenoxe: this was the route taken by Napoleon in 1814 to compass the destruction of Blücher's army at the battles of Montmirail, Champaubert, and Vauchamps: 4, from Ferté sous Jouarre to Melun by Coulommiers and Guignes: partly followed by Napoleon when he went to beat Schwarzenberg's army at Mormans, Nangis, and Montereau.

4. The *Oise* rises in the western Ardennes, near the frontier of France and Belgium, flows from N.E. to S.W., and washes GUISE, a stronghold indifferently fortified by a surrounding wall and a castle, taken in 1815 by the allies;—LA FÈRE, a stronghold with an arsenal and an artillery garrison; taken in 1814; ineffectually besieged for five months in 1815. It then passes near NOYON, a very ancient town, the birth-place of Calvin and of Dumouriez;—washes COMPIÈGNE, famous for its castle and the siege of 1430;—VERBERIE, where the kings of the two first races resided;—CREIL, the point of contact of the Northern and St. Quentin railways;—PONTOISE, very important for the supply of Paris, and celebrated in the wars of the English, who took it in 1419 and 1437.—It ends at CONFLANS, after a course of 112 miles, and is connected with the Escaut by the St. Quentin Canal, which commences at Chauny and ends at Cambray, being 60 miles long. Near Creil and on its right it receives the *Therain*, which runs by BEAUVAIS, chief town of the department of Oise, celebrated for the siege of 1477.—Its chief tributary on the left is the *Aisne*.

The Aisne rises in Argonne, flows through very narrow ravines from S.E. to N.W., washes STE. MENEHOULD, on which Dumouriez rested in 1792 to fight the battle of Valmy; it is joined by the *Aire*, which runs on its right parallel with it, washing CLERMONT EN ARGONNE; VARENNES, where Louis XVI. was arrested in 1791, and GRANDPRÉ, where Dumouriez encamped in face of the Prussians; the country betwixt these two rivers, covered with wood, marshes, and ravines was the theatre of this general's operations.* The Aisne next washes VOUZIERS; RETHEL, where Turenne was defeated in 1651 by Du Plessis Praslin; CHATEAU PORCIEN, taken by the Spaniards in 1650 and 1652; BERY AU BAC, a very important bridge on the road from Reims to Laon, battle of 1814; SOISSONS, a very ancient town celebrated for the battle of 486, when Clovis beat Syagrius; a strategic position of the greatest importance at the issue of the great northern road to Paris; besieged three times in 1814; its capitulation brought about Napoleon's fall, he having forced Blücher's army between it and his own army; it is now regularly fortified. The Aisne terminates near Compiègne after a course

* Vide ante, p. 149.

of 100 miles; in addition to the Aire and several small streams it receives the *Vesle*, which flows past Reims (Remi, metropolis of Belgica II.), a large manufacturing town, celebrated in the middle ages for its cathedral, where the kings of France were crowned; it lies at the entrance to the Ardennes and is commanded by a plateau; in 1814 Napoleon defeated a Russian corps here. The Vesle is skirted by the road from Reims to Soissons.

This road and those from Soissons and Reims to Laon describe a very remarkable triangle, the angles of which are these three towns, whilst the Aisne forms a bisecting line. This triangle is traversed by the *Lette*, a tributary of the Oise, running parallel to the Aisne, a small, narrow, marshy river that rises in the plateau of Craonne, a plateau fringed by precipitous ravines and furrowed by brooks, celebrated for the battle of 1814, where Napoleon, after losing Soissons, defeated Blücher. The largest brook that runs into the Lette is called the *Ardon;* it forms a narrow and dangerous glen, through which runs the road from Soissons to Laon, in the course of which it forms numerous marshes; it rises in the plateau where Laon lies, the chief town of the department of Aisne, built on a rounded knoll 130 feet in height, which commands the roads from Soissons and Reims. This town, which figured so conspicuously in the middle ages, is defended by a citadel. In 1814 it was used as a magazine by the allies, who obtained possession of it without resistance, and from whom Napoleon in vain attempted to wrest it in a battle that lasted three days.

The country between the Marne and Aisne forms a long ribbon, 25 to 38 miles wide, comprised between the Marne from its confluence to Chalons, the road from Chalons to Ste. Menehould, the Aisne from Ste. Menehould to Compiègne, and the Oise to its confluence, finally, the Seine from the confluence of the Oise to that of the Marne: it is the strategic area for an invasion towards Paris. This district is, as a rule, flat, only traversed by the Vesle and Ourcq, but not very practicable for an army; between the Marne and Aisne runs a chain of small hills, which, at first of considerable height betwixt Epernay and Bery au Bac, become gradually lower towards the Oise, and whose northerly slopes are covered by the forests of Villers Cotterets and Compiègne. The communications are numerous: 1, from Meaux

to Soissons by Ferté Milon; 2, from Château Thierry to Soissons by Oulchy; 3, from Compiègne by Soissons to Reims; 4, from Paris to Soissons by Dammartin and Villers Cotterets; 5, from Paris to Compiègne by Senlis, &c.

Recapitulation of the Basin of the Upper Seine.—The basin of the Seine as far as Paris has a remarkable direction; its origin is a tortuous line whose two extremities are the source of the Marne and the source of the Yonne, the source of the Seine being the middle. From this line there descend twelve parallel watercourses, which permit ingress into the basin by natural roads, easily pursued in consequence of these watercourses only being enclosed by low hills, and their united valleys being merely a broad plateau almost without undulations as far as Paris. The Marne and the Yonne are the two extreme lines of it; the Seine occupies its centre. This physical constitution has always rendered this basin of great importance in a military point of view, especially since Paris has become the chief regulator of the destinies of Europe; we see this in the feudal wars and the religious wars of the sixteenth century, which devastated this region in all directions; but still more in the campaign of 1814, when not a mound, a brook, a natural obstacle of any kind, but what was the object of some combination and the theatre of some battle.

We may add, that the three chief valleys of this basin, the Seine, the Marne, the Oise, converge towards Paris; that the two first commence not far from the gap of Béfort, or the pass of Basel, the importance of which we shall by and by see; that the third commences in Belgium, so that they offer natural routes for an invasion directed on Paris. These were in fact the routes followed by the three allied armies in 1814, the army of Bohemia by the Seine, the army of Silesia by the Marne, and the army of the North by the Oise; these are the routes the enemies of France wished to secure to themselves when they mutilated her frontier in the direction of these three valleys, by dismantling Hüninguen, which defended the road by the Seine valley; by depriving her of Sarrelouis, which defended the road of the Marne valley; and by taking from her Philippeville and Marienburg, which defended the entrance to the Oise valley. The fortification of Paris was designed to close the egress of these three valleys and thus to restore their efficiency to the E.

and N.E. frontier strongholds. (See the recapitulation of the frontier of France in the basins of the Rhine and Escaut.)

Rivers to the East of the Seine.—1. The *Bresle* washes AUMALE (battle of 1592), is navigable at EU, and ends at TREPORT.

2. The *Somme* rises at Fons Somme, washes ST. QUENTIN (Veromanduum), formerly fortified and the capital of the Vermandois, now a manufacturing town; battle of 1557, when the Spaniards defeated the French;—HAM, with a castle that is used as a state prison; birthplace of General Foy.—It passes near TESTRY, battle of 687, which put an end to the dominion of the Frank-Neustrians; washes PÉRONNE, a stronghold in a marshy country which helps to defend it; besieged on several occasions by the Spaniards;—CORBIE, formerly fortified, taken by the Spaniards in 1636;—AMIENS, ancient capital of Picardy, chief town of the department of Somme, a manufacturing town with 58,000 inhabitants, defended by a citadel, taken by the Spaniards in 1597; treaty of peace of 1802;—ABBEVILLE, an important stronghold, fortified by Vauban, a commercial port. Below this town it spreads out in a flat country without any slope, attains a breadth of from 2 to 4 miles, and forms the *bay of Somme*. This bay at high tide looks like a great gulf in which whole fleets could manœuvre; at low water it is nothing but a collection of patches of water, sandy shores, wet banks and overflowed land. It contracts opposite the shore of CROTOY and the small seaport of ST. VALERY, and ends below these two towns. The bay of Somme has a melancholy celebrity in the history of France: below NOYELLES, the English crossed its sandy bed by the ford of *Blanquetaque*, in 1346, to seek the battle-field of CRECY, which is situated on the *Maye*, a brook that runs into the bay of Somme. The Somme is connected with the Oise by the St. Quentin canal; it is skirted laterally by the Picardy canal, which commences at St. Simon in the St. Quentin canal and ends at St. Valery, after passing Ham, Peronne, Amiens, and Abbeville; its length is 98 miles. The railway from Paris to Boulogne skirts it from Amiens to Noyelles; thence it crosses the bay of Somme and reaches St. Valery.—The small basin of the Somme, which is encircled by low hills of scarcely 490 feet in height, is rich and well cultivated; it comprises a considerable portion of ancient Picardy and was of great importance when that province

was the frontier of France; hence it was devastated in the wars with the English, Burgundians, and Imperialists, and the Picard towns in those days stood heroic sieges which saved the kingdom. But since the frontier has been pushed back to the Escaut, the basin of the Somme has become of secondary importance, and it played quite an insignificant part in the war of the Spanish succession and in the campaigns of 1793 and 1814.

3. The *Authie*, a small stream parallel with the Somme, washes DOULENS, a town formerly fortified, with a citadel used as a state prison.

4. The *Canche* washes HESDIN, formerly fortified, but now possessing only old ramparts; here it receives a tributary stream which passes near the field of AGINCOURT, battle of 1415, where the French were defeated by the English;—MONTREUIL, a fortified town with an old castle;—ETAPLES, a small seaport, in former times very flourishing, but now nearly lost in the wet sands and desert sandhills where the Canche ends. The bay of Canche, situated opposite to a large sandbank parallel to the coast called the *Bassure de Baas*, is notorious for shipwrecks.

Political Divisions.—The watershed of the Channel comprises the following 22 departments: *Finistère*, *Côtes du Nord*, *Ille and Vilaine*, *Manche*, belonging to the 16th military division; *Calvados*, *Orne*, *Eure*, *Lower Seine*, belonging to the 2nd; *Somme*, *Pas de Calais*, belonging to the 3rd; *Oise*, *Seine and Oise*, *Seine*, *Seine and Marne*, *Eure and Loir*, *Yonne*, and *Aube*, belonging to the 1st; *Marne*, *Aisne*, and *Ardennes*, belonging to the 4th; *Upper Marne*, and *Côte d'Or*, belonging to the 7th military division.

§ VI.—WATERSHED OF THE MEDITERRANEAN.

This watershed is formed: 1, by the northern watershed of the Eastern Pyrenees from Cape Creus to the pic de Corlitte; 2, by the eastern watershed of the Corbières from the pic de Corlitte to the pass of Naurouze; 3, by the eastern watershed of the southern and northern Cevennes, of the Côte d'Or, and of the plateau of Langres; 4, by the southern watershed of the Faucilles hills and of the southern aspect of the Vosges; 5, by the western watershed of the Jura; 6, by the southern watershed of the Jorat and of the Helvetic Alps; 7, by the northern

watershed of the Pennine Alps; 8, by the western watershed of the Graian, Cottian, and Maritime Alps as far as the union of the Alps and Apennines at the pass of Cadibone opposite Savona. It includes the basin of the Rhone and some small basins on the west and east of that river, from Cape Creus to Savona.

Encircling Mountains.—1 and 2. We have already described (pp. 90 and 116) the northern watershed of the Eastern Pyrenees and the eastern watershed of the Corbières.

3. The eastern spurs of the southern Cevennes have the same characters as the principal chain, and make the whole region comprised between the Cevennes and the Rhone as far as Valence a very mountainous, difficult, rugged country, eminently favourable to defensive operations, and celebrated in the history of the religious wars; they descend abruptly upon the river and retain traces of their volcanic origin. The chief of these spurs are the one that runs between the Herault and the Gard, one mountain peak of which near Sumène is 4,172 feet in height; the one that runs between the Chassezac and the Ardèche called *Tanargue*, which is 5,012 feet high; the one that runs between the Ardèche and the Eyrieux, called *Boutières*, which attains a height of 4,540 feet.

The spurs of the hills of Lyonnais, Beaujolais, and Charolais, are much lower and more rounded; their height ranges from 1,640 to 2,624 feet. With regard to those of the Côte d'Or and of the plateau of Langres, they are only about 1,312 feet high.

4. Between the sources of the Meuse and Saone the plateau of Langres is continued by the *Faucilles hills*, a series of mammillated plateaus of from 1,312 to 1,640 feet high, which run from west to east in a semicircular manner as far as the sources of the Moselle and the Savoureuse, between the *Ballon d'Alsace* (4,123 feet) and *Mont Bœrenkopf* (3,296 feet); there they join the chain of the Vosges, of which they form the southern side.

The *Vosges* only belong to this basin by their southern extremity, and they will be described under the basin of the Rhine; they are connected with the Jura by a hilly region stretching from N.W. to S.E., between Giromagny and Porentruy, or between the sources of the Savoureuse (B. of the Rhone) and those of the Ill (B. of the Rhine). In this, the *Gap of Béfort*, between the plains of the Rhine and those of the Saone, is the water-parting of the canal from the Rhine to the Rhone, at the

Pass of Valdieu (1,141 feet); and it is the easiest pass by which to enter France by the road from Basel to Befort, which runs through this very pass; we shall by and by see how important it is.

The spurs thrown out by the Faucilles hills, between the first tributaries of the Saone, are merely high knolls; but between the Drugeon and the Ognon, and between the Ognon and the Doubs, these spurs are from 50 to 62 miles in length, and rise to a considerable height; the former from 1,968 to 2,296 feet high; the latter, which appear to be the southern prolongation of the Vosges, rise to a height of 3,772 feet. The roads that cross the Faucilles and the Gap of Béfort are important: 1, from Vesoul to Epinal; 2, from Vesoul by Béfort to Basel; this is the high road from Paris by Langres which was pursued in 1814 by the allies; 3, from Besançon by Béfort to Strasburg.

5. The Jura runs from N.E. to S.W. It is 174 miles long and about 38 broad. It rises gradually as it approaches the Alps, of which it seems to be an advanced terrace, and looks like a long wall, or rather, on account of the singular direction of the spurs detached from the chain parallel to the water-parting, like a confused assemblage of parallel walls separated by longitudinal valleys. These walls decrease in height from east to west, so that the farthest east, with a mean elevation of 3,280 feet, contains the highest peaks of the chain (*Mont Reculet* 5,632 feet; *Mont Tendre* 5,543 feet; *Mont Dole* 5,514 feet); and, that farthest west, from 1,312 to 1,968 feet high, becomes lost in the plains of the Saone. Generally speaking, the eastern watershed is composed of high and uninterrupted mountains, whilst the western watershed is made up of elongated low hills, only connected with one another by their bases. The northern part becomes gradually lost in the plains of the Rhine and shapes the course of the Doubs, which it forces to change its direction. The middle portion between the sources of the Doubs, Ain, and Orbe, is the thickest and most confused part; from this the greatest number of the spurs before mentioned are detached, and here it is, near the Pass of Les Rousses, that the Jura joins the Jorat which continues the encircling heights of the Rhone basin. The southern portion, which does not belong to the water-parting, is the highest and most rugged. Here are

the culminating peaks spoken of above; here also the largest spurs are met with; that which lies on the left of the Ain has peaks exceeding 5,576 feet in height. This part is prolonged to the Rhone, which it completely protects; it contains some formidable defiles, particularly those of Nantua, St. Claude, and Les Rousses, which were defended by Suchet in 1815.

Throughout the entire chain there are few well-marked depressions in the water-parting, so that the Jura on the east side has the appearance of an immense black wall, very slightly serrated. The roads through it are not natural, that is to say, they do not follow the longitudinal valleys, but cut them perpendicularly, which renders them very tortuous and easy to be destroyed. The principal go: 1, from Basel to Besançon, by the pass of Miécourt (1,738 ft.), Porentruy, and Blamont; it was formerly covered by the castle of Blamont; 2, from Neufchatel to Besançon, by Pontarlier; defended by the Fort of Joux; 3, from Geneva to Besançon, by Gex, the Pass of Les Rousses (4,080 ft.), and Poligny; defended by the fortress of Les Rousses; 4, from Geneva, by Nantua, to Macon or Lyons; defended by fort L'Ecluse.

The Jura forms the frontier of France and Switzerland, but the political line follows the natural by no means exactly, to the disadvantage of France. Though favourable for defensive operations, it forms but an indifferent frontier, the best defence of which is the neutrality of Switzerland. The two routes of invasion are by Geneva and Basel, because the roads leading from both these towns turn the walls of the Jura and lead directly to Besançon and Lyons.

6. Near the Pass of Les Rousses the Jura joins the *Jorat*, a series of low hills and plateaus, at first not more than from 1,640 to 1,968 feet high, but rising towards the east to the height of 3,936 feet; it describes a semicircle about the lake of Geneva, and is crossed by the road from Lausanne to Bern, which communicates with Geneva on the S.W. and with Martigny in Valais on the S.E.

The Jorat joins the *Helvetic Alps* or *Bernese Oberland*, one of the densest and highest masses of mountains in Europe. Here begin the Great Alps, with their tops covered with perpetual snow, their enormous glaciers, their impenetrable ravines, their

wild and picturesque valleys. The Bernese Oberland runs from west to east, and its highest peaks are: the *Finster-Aar-Horn* (14,100 ft.), a granite pyramid surmounting the glaciers whence the Aar rises; the *Jungfrau* (13,718 ft.), so called poetically by the shepherds of the Alps on account of its everlasting snowy robe, and because its top was thought to be inaccessible by man.* Its southern watershed is only marked by very short spurs, which hug the Rhone in its upper portion; but we shall find in the basin of the Rhine that the spurs of the northern watershed form part of the mountains of Switzerland. The passes are scarce, high, impracticable for an army, and have not been crossed in any war, because they do not constitute direct roads from Switzerland to Italy, and *vice versâ:* 1, Pass of the *Dent de Jaman* (4,871 ft.), between the lake of Geneva and the valley of the Saanen; 2, *Pass of Geltenhorn*, between Sion and Saanen; 3, *Pass of Gemmi* (7,403 ft.), between Leuk on the Rhone and Thun on the Aar; 4 and 5, *the Grimsel* (8,400 ft.) and *Furka* (8,712 ft.) passes, leading from the sources of the Rhone to those of the Aar.

7. As far as the St. Gothard, the encircling heights of the Rhone basin belong to the great European water-parting; but after leaving the St. Gothard, the encircling heights, formed by the highest and most famous Alpine range, only separates the basin of the Rhone from that of the Po. It describes a large portion of a circle, whose two extremities, Mont St. Gothard and the Pass of Cadibone, are in the same meridian; its convexity is turned towards France, its water-parting almost gradually diminishes in height from north to south, and its length is 348 miles; it constitutes the *Western Alps*, the Great Alps, the Alps properly so called. The incline of this great chain towards Italy is much more rapid than towards France; as a consequence of which the western valleys are much higher than the eastern, and the whole range may be divided into three series of mountains: the front chain on the west, which is from 3,000 feet to 5,000 feet high, and 60 miles broad, and which becomes lost in plateaus, stretching to the Rhone; the crest, which is from 9,000 to 15,781 feet high, with a breadth of only 8,000 feet; finally, the back chain, with abrupt flanks covered with forests and ice, from 5,200 to 8,000 feet high, and

* Of late years the Jungrau has been frequently ascended.

from 10 to 12 miles broad. The largest valleys of the Alps are transversal; the greatest of all is that of the Rhone. As these mountains describe an arc of a circle, whose concavity looks east, their western valleys are generally divergent, or at least parallel; whilst their eastern valleys on the contrary converge towards a common centre. Hence it follows that invasion from west to east, or from France to Italy, is more favourable than from east to west, or from Italy to France.—The Western Alps are divided into *Pennine*, *Graian*, *Cottian*, and *Maritime*.

The *Pennine Alps* commence at Mont St. Gothard and end at Mont Blanc; their length is 100 miles; they run parallel to the Bernese Oberland, and they come so close to the Rhone that they almost seem to form with these mountains one and the same chain, which has been worn through by the river; towards the west they gradually retire from the Rhone, throwing out towards it branches of great height. They are the most considerable mountains in Europe in respect to height, mass, and glaciers, which last are the largest in the Alps, some being from 20 to 24 miles in extent.—Highest peaks: *Monte Rosa* (15,217 feet); *Mont Cervin* or *Matterhorn* (14,705 feet); *Mont Blanc*, between the valleys of Chamouni and Entrèves, lying in lat. 45° 49′ 58″ and in E. long. 6° 51′ 31″; height 15,781 feet; it is the highest mountain in Europe.

From this immense wall, which has on either flanks the passes of the Great and Little St. Bernard, the vision reaches over an expanse of 250 miles; on the south lies the rich and verdant valley of the Po, beyond that we see the commencement of the Apennines, and over them the Gulf of Genoa, which becomes lost in the misty distance; on the west the great valley of the Rhone, fringed by the Cevennes, which look like little knolls, and the mountains of Burgundy appearing like cloudy undulations; on the north the deep valley of the Upper Rhone, the lake of Geneva looking like a small bluish ribbon in the midst of the champaign country; the wall of the Jura stretching to the Rhine, and the vast chaos of Swiss lakes and mountains; finally, on the east, a long array of snow-covered peaks, extending as far as the St. Gothard.

The block of Mont Blanc sends off two large branches.—The first runs N.E., between the Arve and the Valais Dranse and

Rhone, and expands towards the lake of Geneva, so as to enclose the small basin of the Savoy Dranse; it is composed of enormous mountains crossed by several very difficult passes, and serves as the boundary betwixt Savoy and Valais, or between France and Switzerland.—The second runs N.W., between the Arve and Isere, and splits into two spurs: the first between the Arve and Fier, the last summit of which, *Mont Vouache* (3,608 feet), loses itself on the Rhone near Fort L'Ecluse, opposite the last summit of the Jura, *Mont Credo* (5,543 feet); the second, betwixt the Fier and Isere, commonly called *Bauges*, covers with its ramifications all the space comprised between the Isere and Rhone; one of them envelopes the basin of the Guier, and forms the wild range of the *Grande Chartreuse*, which is 6,560 feet high. These mountains are crossed by numerous roads; the principal is that from Lyons to Chambery, by the Echelles, and thence northwards to Geneva, or eastwards to Turin.

The principal pass of the Pennine Alps is the *Simplon* (6,578 feet), which connects Brigg on the Rhone with Domo d'Ossola on the basin of the Ticino; a magnificent road was constructed by order of Napoleon between 1801 and 1807 across this pass; it is practicable for all kinds of vehicles, and it has in truth annihilated the barrier of the Alps. It is the main road from Geneva to Milan; it turns all the defiles of the Alps, and brings us to level ground in the heart of Lombardy; both sides of it belong to the canton of Valais. The second pass is that of the *Great St. Bernard* (7,963 ft.), between Martigny near the Rhone and Aosta on the Doria Baltea; it is the densest and most arid part of the Alps: for 25 miles the path is impracticable even for mules. It has been crossed by the Romans, the Lombards, the Franks under Charlemagne, the Germans under Frederick Barbarossa, and in 1800 by Napoleon, when he marched into Italy in order to turn the Austrian army, which was endeavouring to penetrate into France by the Var.

8. The *Graian Alps* commence at Mont Blanc; they run from north to south for a distance of 62 miles, describing a re-entering curve, the convexity of which is turned towards Italy. They separate France from Piedmont. Their highest peak is *Grand Paradis* (13,270 feet). *Mont Iseran* (11,322 feet) is the central nucleus of the valleys of the Doria-Baltea, the Isère, the Arc, the

Little Stura, and the Orco.—Passes: 1, the *Little St. Bernard* (7,190 feet), from Moutiers to Aosta; 2, the *Cenis* (6,775 feet), between St. Jean de Maurienne on the Arc and Susa on the Dora Riparia. A magnificent road was constructed through this pass by Napoleon; one half of it now belongs to France, the other half to Italy; it is defended by Fort Esseillon on the Arc, and connects Chambery and Turin; a mountain railroad has recently been constructed alongside the road from St. Michael to Susa; and a tunnel is in course of construction through Mont Cenis. The western spurs of the Graian Alps are of large size: the principal is given off by Mont Iseran, and runs between the Arc and the Isère.

The *Cottian Alps* commence at Mont Cenis; they run from north to south for a distance of 62 miles, describing a re-entering curve, the convexity of which is turned towards France. They separate France from Piedmont. Their highest peaks are:—1, *Mont Thabor* (10,406 feet), situated at the most western point of the curve; 2, *Mont Genèvre* (11,782 feet); 3, *Mont Viso* (12,586 feet). —Passes: 1, pass of *Mont Genèvre* (6,475 feet), between Briançon and Susa; it belongs half to France and half to Italy; 2, pass of *Abriès*, between Mont Dauphin and Pignerol.

Two spurs of this chain are very important; they contribute to the formation of the interesting but ill-understood mountains of Dauphiny; they are given off from Mont Thabor.—One of them, called the *Maurienne Alps*, runs north between the Arc and the Romanche-Drac, spreading out towards the Isère as far as the confluence of the Drac, and separating Dauphiny from Savoy; it is so dense and difficult that it is crossed by no road; its highest peak is the *Trois Ellions* (12,736 feet). The other, called the *Dauphiny Alps*, runs first from north to south, separating the upper Durance from the Romanche and Drac; it contains the highest peaks of this part of France, its largest glaciers, its wildest ravines; we find here *Mont Arsine* (13,468 feet), *Pelvoux de Vallouise* (13,440 feet), and in the spur betwixt the Drac and Romanche, *Mont Ollan* (13,819 feet). There is but one good road, that which leads from Grenoble to Briançon, following the Romanche and Guizanne, by the pass of *Lautaret* (6,790 feet). At the sources of the Drac, the Dauphiny Alps describe a curve from east to west, separating the middle Durance from the Drac: they

are not so high, their highest peak being *Mont Obiou* (9,553 feet), and are crossed by the road from Grenoble to Gap by the pass of *Noyer* (5,422 feet); they are prolonged towards the N.W., between the Drôme and Isère, their highest peak in this part being *Mont Embel* (4,795 feet), and they throw out spurs to the north, which seem to join on the Isère with those of the Grand Chartreuse, producing also the deflection of this river between Grenoble and Voreppe. Finally, between Monts Embel and Obiou, the Dauphiny Alps resume their southward direction, run between the Buech and Durance on the one hand, and between the Drôme and Aygues on the other, decline in height, are crossed by the road from Pont St. Esprit to Gap, and spread out betwixt the Ouvèze and Sorgues into the block of *Mont Ventoux* (6,425 feet).

The *Maritime Alps* commence at Mont Viso, they run as far as the pass of Cadibone, a distance of 124 miles; they describe a segment of a circle, the convexity of which is turned towards France, and the S.E. part of which skirts the sea, leaving between it and the shore a border that always grows narrower and narrower. Their highest peak, *Mont Longet*, is 10,344 feet high; but their height decreases very rapidly as they approach the sea, and at the pass of Cadibone (1,607 feet) we find the lowest part of all the chain of the Alps; eastward of this pass the Apennines commence.—Passes: 1, pass of *Agnello* (10,646 feet), on the southern flank of Mont Viso, leading from Queyras on the Guil to Castel Delfino on the Vraita; it was by this pass that Francis I. entered Italy in 1515, and this transit was as remarkable and as difficult as that of Napoleon by the Great St. Bernard;—2, pass of *Argentière*, from Barceloncttc to Demonte;—3, pass of *Tenda* (5,888 feet), from Tenda on the Roya to Coni on the Stura; it is the great route from the south of France to Italy;—4, pass of *Nava* (3,129 feet), from Albenga on the Aroscia to Ormea on the Tanaro; 5, pass of *Cadibone* from Savona to Carcara and Dego on the Bormida; by this pass Bonaparte turned the Alps in 1796; by it also the Austrians in 1800 pierced the French army that occupied the whole of the crest, and forced Massena to throw himself into Genoa, and Suchet to retreat to the Var. A fine road has been made through this pass, which establishes a communication between the great coast road, called the *Cornice* road, with Alessandria.

The branches thrown off from the Maritime Alps are, on the south, short and abrupt upon the Mediterranean; on the west, they stretch as far as the Rhone between the Durance, its tributaries and the Var. The most remarkable is the chain of the *Lower Alps*, which is given off from Mont Lausanier, runs between the Ubaye and Verdon on the one hand, and between the Var and Esteron on the other; it attains a height of 8,200 feet, stretches to the S.W. as far as the confluence of the Verdon, under the name of *Esterel* mountains (3,936 feet), and is united by low hills with the small chain of *Les Maures*, which skirts the sea-board between Marseilles and St. Tropez, and is from 1,968 to 2,296 feet high. Of the innumerable spurs which are given off from this long and tortuous chain, we may mention only the *White* mountains, which form the encircling heights of the basin of the Ubaye; they are 6,560 feet high, and are crossed by paths practicable for an army, which lead into all Lower Provence. The last rounded butt of these mountains is the *Croix de Colbas*, at the confluence of the Ubaye, on which Fort St. Vincent is built.

General Aspect of the Watershed.—The Mediterranean watershed is very varied, and may be divided generally into three portions:—1, the eastern basin, or that of the Upper Rhone, mountainous, narrow, unfertile, and scantily peopled; 2, the northern basin, or that of the Saone,—narrow on the west, where it is composed of slopes covered with rich vineyards,—broad on the east, where it extends into the successive stages of the Jura; rich, fertile in wine and corn, well peopled; 3, the southern basin, or that of the Lower Rhone, narrow on the west, where it is fringed by the arid and broken mountains of the Cevennes, broad on the east, where it bristles with the spurs of the Alps, an unfertile country, save in the vicinity of the rivers, inhabited by a warlike and intelligent population.

Coast.—From the termination of the Southern Canal to the mouths of the Rhone, the sea-board is low, sandy, inundated, and intersected by swamps, lagoons, and shoals, which render it impossible to effect a landing. The largest of these lagoons are those of Thau and Aigues Mortes, through which the Southern Canal has been constructed in order to connect it with the Rhone. From the mouths of the Rhone to those of the Var,

the coast is very precipitous, indented with bays, creeks, and harbours, and fringed with islands; here it is easy to effect a landing. This difference of the two portions of the sea-board is indicated by their geometrical configuration: from the Pyrenees to the mouths of the Rhone, the coast describes a concave segment of a circle, favourable to inroads of the sea, whereas, from the mouths of the Rhone to those of the Var it forms a convex segment of a circle, against which the sea dashes, forming openings and islands. Finally, from the mouths of the Var to opposite the pass of Cadibone, the coast is quite mountainous, and hugged by the Maritime Alps so closely as scarcely to allow the existence of a few torrents.—We find here the gulfs of *Berre*, *Grimaud*, *Napoule*, *Juan*, &c., and Capes *Couronne*, *Sicié*, *Pinet*, &c.

Seaports.—1. CETTE, the best harbour in the Gulf of Lions, on the little mountainous peninsula which separates the lagoon of Thau from the sea, protected by three forts, a citadel, and several redoubts; it can admit small ships of war. The very flourishing town is connected by a canal with the lagoon of Thau, and defends the entrance to the Southern Canal. The British landed there in 1710, and were defeated.—2. AIGUES MORTES, on the Great Roubine and Beaucaire canals; it is surrounded by unhealthy sea marshes, and defended by strong walls flanked by towers, dating from the time of Philip III: here it was that St. Louis embarked for the Holy Land. It is separated from the Mediterranean by 1 mile of land, but it would be a task of no great difficulty to reopen the lagoon, by which in the time of St. Louis it communicated with the sea.—3. BERRE, at the head of the great sea lagoon of the same name, formerly fortified.—4. MARTIGUES, on the canal that connects the lagoon of Berre with the sea.—5. BOUC, on the same canal, with a good harbour and a strong tower.—6. MARSEILLES, the most commercial town and busiest seaport of France, chief town of the department of Bouches du Rhone, and of the 9th military division: pop., 260,000. It is the most ancient town of Gaul; founded B.C. 600 by the Greeks of Asia Minor, it became the rival of Carthage and the Athens of the Gauls; annexed to the Roman Empire by Cæsar, it was devastated by the Goths, the Burgundians, the Franks, and reduced to a heap of ruins by the Saracens in 735;

it became a powerful republic in the middle ages, was rendered subject to them by the Counts of Provence, and annexed to the crown of France under Louis XI.; it was besieged by the Spaniards in 1524. It is admirably situated at the head of a little bay; its harbour, which can contain 12,000 ships, is not large enough for the number of vessels which resort to it, so that two artificial harbours have been added to it, that of *Joliette*, which can admit frigates, and that of *Frioul;* it is protected by forts *St. Nicolas* and *St. Jean*, which defend the entrance to the harbour, the castle of Notre Dame de la Garde, which is a mere look-out post, finally, by the castle of *If* on an island, and the batteries of the islands *Pomegue* and *Ratoneau*, which seal its roadstead and contain its lazaretto.—7. La Ciotat, a small port for building vessels, defended by batteries.—8. La Seyne, a small port for building vessels on the west coast of the Toulon roads.—9. Toulon, a first-class war port, one of the best in Europe; the seat of a maritime prefecture, comprising the harbours and coasts of the Mediterranean. It lies at the head of a safe and deep bay comprised between the coast and the peninsula of Cepet, at the foot of a bare and arid mountain, the *Faron*, which commands it on the north. It is surrounded by a regular bastioned enceinte, which has lately been enlarged, and contains a population of 85,000. Its harbour is divided into a mercantile harbour of little extent, and a war harbour constructed by Louis XIV., and surrounded by large arsenal buildings, dockyards, magazines, rope manufactories, &c. Outside of it is a magnificent roadstead divided into the great and the little roads; the little roads between the harbour and the point of Eguillette, and of which the bay of La Seyne is a prolongation; the great roads between this point, the peninsula of Cepet and Cape Brun. This roadstead could admit a fleet of 100 ships of any size. It is defended by the forts of *Cape Brun*, *Lamalgue*, *St. Louis*, and the *Tour Ronde* on one hand, and on the other by the forts and batteries of the *peninsula of Cepet*, the forts *Balaguier*, *Eguillette*, *Napoleon*, *Malbousquet*. Finally, these works are in connection with those on Mont Faron, which consists of nine forts or redoubts. Toulon was taken by the Spaniards in 1536, besieged by the Duke of Savoy in 1707, surrendered to the British in 1793, and retaken from them the same year.—10. St.

Tropez, a small seaport with a citadel.—11. Frejus (Forum Julii), near the mouth of the Argens; its harbour, which was formerly of great extent, is now almost silted up; it was in the bay of St. Raphael, near Frejus, that Napoleon landed in 1799. —12. Cannes, a small seaport, where Napoleon landed in 1815. —13. Antibes (Antipolis), a stronghold on the neck of a small peninsula which forms one of the sides of the Gulf of Juan; it is a very important military position; its harbour, not extensive, but deep and safe, is defended by Fort *Carré*, on a little island; three heights command the ramparts of the town, and are fortified. It was besieged in 1746 by the Imperialists and the Piedmontese.—14. Nice, formerly the capital of the country of that name, now the chief town of the department of Maritime Alps; it is surrounded by a fine bastioned enceinte; it has a harbour, not large but deep, which is defended by a fort; taken by the French in 1542, 1691, 1706, 1744, and 1792.—15. Villafranca, a good harbour, defended by a strong castle.—16. Monaco, capital of a small principality, defended by a strong castle.—17. Ventimiglia, at the mouth of the Roya, defended by a strong castle.—18. Oneglia.—19. Loano, battle of 1795, won by the French over the Austrians.—20. Savona, with a harbour defended by a castle. These four last-named towns, from Ventimiglia to Savona, belong to the kingdom of Italy.

Islands.—1, the islands of *Ratoneau*, *Pomegue*, and *If*, which defend the roads of Marseilles; 2, island of *Bregançon*, a rock surmounted by a fort, defending the roads of Hyères; 3, the *Hyères* islands, the principal of which are the islands of Porquerolles, Porteros, and Levant; they are defended by seven forts and castles, and protect the roads of Hyères. The town of the same name, celebrated for the mildness of its climate, is at a distance of 2½ miles from the sea; 4, the *Lerins* islands, consisting of Ste. Marguerite and St. Honorat; they cover the gulfs of Napoule and Juan, and are defended by a fort and batteries; taken by the Spaniards in 1635.

Secondary Basins on the West of the Mouths of the Rhone. —1. The *Tech*, the *Tet*, the *Gly*, and the *Aude* (see ante, p. 117).

2. The *Hérault* rises from a spur of the Cevennes, runs from north to south, and ends at Agde (Agatha), a very ancient town, situated near the lagoon of Thau and on the Southern Canal;

its harbour communicates with the sea by means of a narrow channel formed by the mouth of the Herault, and which is protected by fort *Brescou* and some batteries excavated in the rock.

3. The *Lez*, a small stream which passes near MONTPELLIER, chief town of the department of Herault, and of the 10th military division; an engineer garrison. The only defence the town has is a citadel in good condition, constructed by Louis XIII. to overawe the town after he took it from the Protestants in 1622; during almost the whole of the middle ages it was an independent republic. It is connected with Cette by a railway.

4. The *Vistre* runs near NIMES (Nemausus), a large and ancient town, celebrated in the religious wars, chief town of the department of Gard; it joins the Aigues Mortes Canal.

Course of the Rhone.—The *Rhone* (Rhodanus) rises in the mass of St. Gothard; its most northern source is at the foot of the Galenstock, at a height of 5,750 feet; it runs at first in a narrow and deep valley, inclining from N.E. to S.W., hugged and enveloped on either side by the enormous walls of the Bernese Oberland and Pennine Alps, which hardly allow it a passage through which to dash its torrent-broken water. This valley, so remarkable for its wild and picturesque beauties, 89 miles long by 15 to 17 broad, is called *Valais*, one of the cantons of the Helvetic Confederation, a Catholic country, where the language spoken in the east is German, in the west, French; and which formed part of the empire of Napoleon from 1810 to 1814. It is very important in a military point of view, because it contains the Simplon road, and because its possession would give to France access to Lombardy, just as it gives access to France by the Rhone; moreover, it would permit the French to make of the Central Alps the base of operations for a double attack upon Italy and Germany. In this valley, the river, skirted now on the right, now on the left, by a road that crosses it several times, and that leads from the Simplon to Geneva, passes near BRIEG (2,329 feet), where the Simplon road commences; LEUK, or LOUECHE, at the foot of the Gemmi pass, celebrated for its mineral waters; SION, capital of Valais, taken by the French in 1798; MARTIGNY (1,574 feet), whence it runs almost due north for 38 miles; it is there hugged on its left by a great chain thrown off from the Great St. Bernard, and on its right by the Bernese

Oberland which turns to the N.W. to join the Jorat. After a course of 100 miles it enters the *Lake of Geneva* or *Leman*. This lake, which describes a segment of a circle from east to west, is 45 miles long by 2½ to 7 miles broad; it is 1,230 feet above the level of the sea; it receives forty small streams coming from the south; forms the boundary betwixt France and Switzerland (cantons of Geneva, Vaud, and Valais), and has no remarkable towns on its banks except LAUSANNE and THONON; a road runs round the north bank and another round the south, both of which lead to Geneva.

The river issues from the lake at GENEVA, a town formerly fortified, and with a great trade, containing a population of 48,000 inhabitants; it was formerly an independent republic, and the centre of the Calvinistic religion; it formed part of the French Empire from 1798 to 1814, and is now the chief town of a Swiss canton; the birth-place of J. J. Rousseau, Necker, Marat, &c. It is a very important position, whence an army might march on Lyons or into the defiles of the Jura, and by which, in 1814, the Austrians penetrated into France; it is now rendered unimportant by the annexation of Savoy to the French Empire.

Below Geneva the Rhone enters France, inclining more and more southwards, and separating the departments of Ain and Upper Savoy; it flows at the foot of Fort L'ECLUSE, which stands at a height of 131 feet above the river, and commands the road from Geneva to Lyons; taken by the Austrians in 1814 and 1815. It is then hugged very closely on its left by the chain between the Fier and Arve, and on its right by the last heights of the Jura; these two chains unite below L'Ecluse, about Mont Vouache, which explains the formation of the Lake of Geneva; the Rhone has consequently been obliged to burrow a channel below the rocks; human skill has removed this barrier, but the river is tortuous, rapid, and much obstructed. At SEYSSEL it becomes navigable; thereafter it passes near PIERRE CHATEL, a fortress defending the road from Chambery to Belley; then ST. GENIS, where the last knolls of the Alps and Jura are to be seen; it divides the departments of Ain and Isère, and it washes no remarkable place till its confluence with the Saone. There it runs through Lyons.

Lyons is the second town of France, with a population of 318,000. It lies chiefly on a peninsula formed by the Saone and Rhone; it is commanded on the N.E. between the two rivers by the heights of Croix Rousse, now fortified; on the west, on the right bank of the Saone, by the low hills of Fourvieres and St. Foy, also fortified. It is divided into three parts: 1, the town between the Rhone and Saone, surrounded by an old bastioned envelope without ditches, masked on the east by the suburb, the town, and the heights of Croix Rousse, and on the west by the suburb of Serin, on the left bank of the Saone; the heights of Croix Rousse are defended by forts *Calluire* and *Montessuy*, and the suburb of Serin by fort *St. Jean;* 2, the part built on the elbow of the Saone, enclosed by an old wall, flanked by towers and a few bastions without ditches, which follows the scarped outline of the Fourvières hill, on the eastern side of which are the most populous quarters of the town; this last part is not commanded but masked on the right by the village of St. Irénée, which occupies the western crest of the same hill; it is further masked on the north by the suburb of Vaise, which lies along the right bank of the Saone; all this portion is defended by forts *Ste. Foy, St. Irénée, Loyasse, Vaise,* and *Duchère;* 3, the town of Guillotière and the quarter of Brotteaux, on the left bank of the Rhone, now covered by a large semicircle of forts, connected by an enceinte and a canal; these forts are called *Vitriolerie, Colombier, Motte, Villeurbane, Part-Dieu, Brotteaux, Charpennes,* and *Tête-d'Or.* The principal roads lead into the elbow of the Saone, particularly the Paris railway, the Bourg road leads into the peninsula, the Pont de Beauvoisin, Grenoble, and Vienne roads lead into Guillotière.—Lyons (Lugdunum, metropolis of Lugdunensis I.) was the capital of Roman Gaul; and its position, of great strategic importance as regards Italy, made it the centre of the military roads through Gaul. Several times destroyed by the barbarians, it became the capital of the Burgundians, and after the dismemberment of the empire of Charlemagne, the capital of the kingdom of Burgundy. In the eleventh century its sovereigns were its archbishops, and this state of things lasted till 1312, when it was annexed to France by Philip the Fair. A large manufacturing town, it long represented the spirit of the opposition of the provinces to the centralizing ten-

dency of Paris; it was the centre of the Girondist party during the Revolution; it underwent a horrible siege in 1793 by the armies of the Convention, and it was much injured by the insurrections of 1831 and 1834. It is the chief town of the department of Rhone and of the 8th military division, it contains an arsenal, an artillery college, a military school, an artillery garrison; at the present time it is a great strategic stronghold, covering on the one hand the frontier of the Jura and the neutrality of Switzerland; on the other, the frontier of the Alps and the Italian roads. The birth-place of Suchet.

The Rhone on leaving Lyons turns abruptly at a right angle into the direction of the Saone, and flows to the end of its course from north to south; it is broad, impetuous, terrible, hugged on its right by the Cevennes, which send to it nothing but mountain torrents, and on its left by detached branches from the Alps, which become lost on its bank. It washes GIVORS, r. b., where the railway from St. Etienne to Lyons commences to skirt the Rhone; VIENNE (Vienna, metropolis of the Viennensis), l. b., cavalry garrison;—TOURNON, r. b., with a suspension bridge leading to TAIN, l. b.;—VALENCE, l. b., chief town of the department of Drôme, artillery garrison and college; it leaves on its left MONTELIMAR, with an old citadel and strong walls; it then washes VIVIERS, r. b., the ancient capital of the Vivarais;—PONT ST. ESPRIT, r. b., with a fine bridge 1,443 feet long, across the most rapid part of the Rhone, and defended by a strong citadel, separated from the town by the high road;—AVIGNON, l. b., near the confluence of the Durance, the ancient capital of the county Venaissin, chief town of the department of Vaucluse, celebrated as the residence of the Popes from 1307 to 1377;—TARASCON, l. b., a celebrated town in the middle ages, with its old walls and castle still standing, opposite BEAUCAIRE, r. b., with which it is connected by a bridge, over which runs the railway from Marseilles to Montpellier and Cette;—ARLES, the ancient metropolis of the Gauls, and capital of the kingdom of Provence, now fallen into decay.—A little below this the Rhone divides into two branches; one called the *Great Rhone*, flows S.E.; the other, *Little Rhone*, flows S.W., washing ST. GILLES, a town that gave its name to the illustrious family of the counts of Toulouse; the *Great Rhone*, which alone is navigable, further divides into *Old*

Rhone and *Great Rhone;* the *Little Rhone* into *Little Rhone* and *Dead Rhone.* The two great branches include between them the island of Camargue, formed by deposits from the river, partly cultivated, partly inundated, and which might be made very rich; on it are bred a race of horses believed to be of Arab origin.—The Rhone has a course of about 497 miles in length, of which 155 are navigable; it is the most impetuous river in Europe.

Tributaries on the Right.—1. The *Ain* rises in the Jura, and flows from north to south. Its left bank bristles with mountains of from 4,592 to 5,905 feet in height, and is ploughed by deep valleys and rapid torrents; its right bank is an undulating plateau. It washes no place of importance, its chief tributary is the *Bienne,* and it is only navigable during floods for the space of 50 miles. Not far from the source of the Bienne on the actual line of the water-parting of Europe, stands the new fortress of LES ROUSSES, which defends the road from Geneva to Besançon. The small basin of the Ain, which includes the ancient Bresse, is very favourable for guerilla warfare on account of its complicated system of valleys and mountains, and especially on account of its warlike inhabitants: "they are," says Joubert, who came from that district, "men of calm but decided bravery." Bresse offered a stout resistance to the invaders in 1814.

2. The *Saone* (Arar) rises in the plateau of Langres at a height of 1,332 feet, and flows throughout its whole course almost due south; it washes PORT SUR SAÔNE, a small town of importance on account of the road from Belfort to Langres;—GRAY, an ancient fortified town, of importance on account of the road from Besançon to Langres;—AUXONNE, a small fortress defending the road from Besançon to Dijon, with an arsenal and an artillery garrison; besieged by the Austrians in 1814, taken by them in 1815;—ST. JEAN DE LOSNE, at the extremity of the Burgundy and Alsace canals, celebrated for its splendid defence* against the Imperialists in 1636;—VERDUN, an ancient fortress at the confluence of the Doubs;—CHALONS, a very ancient town in an important position at the end of the Central Canal and at the meeting of several roads, the most remarkable of

* *Belle Défense* is the surname of the town.

which is the railway from Paris to Lyons; battle of 1814 with the Austrians;—Macon, a very ancient town, chief town of the department of Saone and Loire;—Trevoux.—It enters Lyons by a very deep channel, running between two walls of perpendicular rocks, defended by forts St. Jean and Vaise, flows through that town, having on its right the heights of Fourvières and St. Irénée, and ends at the Mulatière bridge. Its course is very peaceful and slow, forming a great contrast to the rapid and impetuous Rhone; it is navigable from Gray for 174 miles. It communicates: 1, with the Loire by the Central Canal, which commences at Digoin and ends at Chalons; length, 72 miles; 2, with the Seine by means of the Yonne and the Burgundy canal, which commences at St. Jean de Losne and ends at Roche sur Yonne, passing by Dijon, Pouilly, and Tonnerre; length, 150 miles; 3, with the Rhine by the Alsace canal, through the Doubs and the Ill; length, 194 miles.—The Saone forms a defensive line behind the Jura; the lower part of its basin enters into complete combination with that of the Upper Rhone, and has Lyons for its support; the middle of its basin is subordinate to that of the Doubs, and has Besançon for its centre; the upper part of its basin is of the greatest importance in a military point of view, owing to its lying between the basins of the Rhine and Seine, and because it gives passage to the road from Basel to Paris by Langres, and to that from Basel to Lyons, turning the Jura; its entrance is defended by Befort.

Tributaries of the Saone on the Right.—These are mere brooks; the first we may mention is the *Tille*, which passes near Fontaine Française, battle of 1595; then the *Ouche*, which flows by Dijon, the ancient capital of Burgundy, chief town of the department of Côte d'Or, a position of great importance in rear of the Saone, at the entrance to the Côte d'Or, where the railway from Paris to Lyons passes. Finally, we may mention the *Azergues*, whose basin is separated from the Saone by a line of precipitous heights crossed by the roads from Moulins and Macon to Lyons; on the latter, at the top of these heights is the position of Limonest, to which access is obtained by means of a long and steep flight of steps; in 1814, Augereau endeavoured to cover Lyons by fighting the Austrians in this position, and his defeat led to the capture of that town.

Tributaries of the Saone on the Left.—1. The *Drugeon*, a brook that washes VESOUL, chief town of the department of Upper Saone.

2. The *Ognon* flows from N.E. to S.W. in a mountainous basin; it washes LURE, and terminates below PESMES.

3. The *Doubs* rises on Mont Rixon in the Jura, at a height of 3,123 feet; it runs from S.W. to N.E. in a very narrow and hilly valley; it has a rapid tortuous course broken by waterfalls; it washes PONTARLIER (2,716 f.), a very remarkable position, protected in front by fort JOUX, perched on an almost inaccessible rock at the point where the roads from Neufchatel and Lausanne meet. It serves as the boundary line between France and Switzerland; it leaves France for some miles of its course; it then makes a turn, running from N.E. to S.W. as far as ST. HIPPOLYTE; then it again turns and runs nearly due north, washing PONT DE ROIDE, on the road from Basel to Besançon. It then turns to the S.W., skirted by the canal from the Rhone to the Rhine; washes BESANÇON (Vesuntio, metropolis of Maxima Sequanorum), the ancient capital of Franche Comté, formerly a free and imperial town, now chief town of the department of Doubs and of the 7th military division, a first-class fortress, to a great extent surrounded by the river, and defended by a very strong citadel built on an inaccessible rock, and two fortified heights; it contains foundries, and an artillery college and garrison. This stronghold is the bulwark of the Jura frontier: it is situated at the place where the three roads from Basel, Neufchatel, and Geneva meet, and cannot be avoided from whatever side the basin of the Saone is invaded; it also covers the road from Dijon and the Yonne to Paris, which avoids that of Béfort and Langres.—Thence the Doubs runs by DÔLE, formerly a very strong fortress, taken by the French in 1668 and 1674, and ends in the Saone at Verdun after a course of 149 miles. This river is not capable of defence in the first part of its basin, and in the second part it opens up a natural way for invasion into the basin of the Saône, on Dijon and Lyons; this is why it has been closed by the fortresses of Béfort and Besançon.—It receives:—

The *Savoureuse*, which rises in the Vosges, and washes BELFORT or BÉFORT, a town fortified by Vauban, a position of the highest importance, at the point of intersection of the basins of

the Rhine and Rhone, and of the roads from Basel, Langres, and Besançon. This stronghold, the sole defence of France against an invasion from Switzerland, by the gap between the Vosges and Jura, was taken in 1814, and it was through it that Schwarzenberg's army penetrated by the plateau of Langres into Champagne. It is now fortified in a formidable manner, and is protected by an entrenched camp capable of holding 50,000 men. The Savoureuse also runs by MONTBELIARD, defended by a strong castle and covered by the canal connecting the Rhone with the Rhine. Before the Revolution this town belonged to the Dukes of Wurtemberg, and it was acquired by France in 1798; it is the birthplace of Cuvier.

The Doubs also receives the *Loue*, a tributary of which runs by SALINS, a small fortress defended by two forts, the birthplace of Darçon.

4. The *Seille* is joined by a brook that flows by LONS LE SAULNIER, chief town of the department of Jura, the birthplace of Lecourbe.

5. The *Reissouse* runs by BOURG, ancient capital of Bresse, chief town of the department of Ain, and terminates near PONT DE VAUX, the birthplace of Joubert.

Remainder of the Tributaries of the Rhone on the Right.—The *Doux*, which terminates at Tournon; the *Eyrieux*, which passes near La Voulte; the *Ouvèze*, which washes PRIVAS, chief town of the department of Ardeche, are mere torrents derived from the Cevennes, and which have never been of importance except during the civil wars. The same may be said of the *Ardèche*, which ends above Pont St. Esprit. Finally, the *Gard* is formed of two streams of the same name that have their sources in the Cevennes; it is a torrent which at first flows in narrow ravines and gives rise to frightful inundations in the plains. It ends above Beaucaire, and its basin contains the railway from Nimes to Alais.

Tributaries of the Rhone on the Left.—1. The *Dranse*, a torrent liable to dangerous floods, falls into the lake of Geneva between Evian and Thonon.

2. The *Arve* rises in the Mont Blanc group, at a height of 3,657 feet, flows from S.E. to N.W., and ends below Geneva; it is impetuous, given to change its channel, and often transforms

its valley into a lake. Its basin, which forms the small province of Faucigny (Savoy), is surrounded by very high mountains.

3. The *Fier* runs through the lake and town of ANNECY, chief town of the department of Upper Savoy.

4. The *Bourget* receives a tributary that washes CHAMBERY, the ancient capital of Savoy, chief town of the department of the same name, and runs through the Lake of Bourget.

5. The *Guiers* rises in the group of the Grand Chartreuse by two sources, flows through a deep ravine in the midst of immense mountains, washes ECHELLES, a market-town situated on the high road from Turin to Lyons by Chambery, a very important position by reason of the obstacles in the road, which is there tunnelled through the rock, forming a subterraneous road of 984 feet long, which will only admit three or four men marching abreast; this tunnel was captured by the French in 1814. From Echelles, the Guiers forms the boundary to the departments of Isère and Savoy; it is skirted by the Lyons road, passes by PONT DE BEAUVOISIN, and terminates at St. Genis. This river is of great importance, not on its own account, but owing to the mountainous district it flows through, and by the access it affords from to Lyons to Turin.

The valleys of the Guiers, Bourget, Fier, and Arve, form the northern part of Savoy, a country that is quite French in position, manners, and language, which formed part of France from 1792 to 1815, and was restored to it in 1860.

6. The *Bourbre* flows past TOUR DU PIN, a town formerly fortified, which covered the road from Chambery to Lyons.

7. The *Isère* (Isara) rises in Mont Iseran, flows through the Tarentaise (Savoy), and washes MOUSTIERS (Tarantasia, metropolis of the Graian and Pennine Alps), where the Little St. Bernard road commences, and MONTMELIAN, a dismantled fortress at the point of union of the roads from Turin and Grenoble to Chambery, a strategic position covering southern Savoy. Thence it turns to the south through a deep defile skirted by the road from Chambery to Grenoble, becomes navigable, passes by FORT BARRAUT, an advanced position covering Grenoble and all the Isère, which was stoutly defended in 1814; then it runs through GRENOBLE, the ancient capital of Dauphiny, chief town of the department of Isère and of the 22nd military division,

situated at the foot of a mountain and commanded by the modern fortress of the Bastille; its bastioned enceinte and its citadel have been repaired and added to, rendering this important town an almost impregnable stronghold, and the centre of the defence of the basin; it has an arsenal, a direction of artillery and engineers, &c.; it was the first large town that opened its gates to Napoleon in 1815; besieged some months afterwards by the allies, it made a vigorous resistance.—The Isère, deflected by the Chartreuse mountains and the spurs of Mont Embel, turns to the north, passes by VOREPPE, returns southwards, washes ROMANS, and ends between Tournon and Valence. It is important by reason of the length and winding character of its course, the access it affords into southern Savoy, and especially by the warlike character of the inhabitants of its basin.—It has numerous tributaries:—1. The *Arc* rises in Mont Iseran, runs near the fortress of ESSEILLON, which guards the pass of Mont Cenis, washes ST. JEAN DE MAURIENNE, is skirted by the road from Chambery to Turin, and terminates above Montmelian. Its very rugged and mountainous valley is of great importance for penetrating into Italy.—2. The *Drac* rises in the mountains of Vallouise, runs a very winding and impetuous course from S.E. to N.W., through a mountainous country, is joined by a number of torrents, the most remarkable of which is the *Romanche*, and ends below Grenoble. This stream has a very rapid fall, a deep and shut-in bed; it is not navigable, and causes great devastation when it is flooded. We have already seen that its basin contains the highest and most rugged mountains of the S.E. of France.

8. The *Drome* washes DIE, and ends below CREST, after a course of 62 miles, not navigable.

9. The *Aygues* washes NYONS and ends near ORANGE.

10. The *Sorgues* derives its origin from the fountain of Vaucluse, is navigable from its very source, receives the *Ouvèse* and *Nesque*, and discharges itself into the Rhone by two mouths.

11. The *Durance* (Durantia) is derived from three sources: the Durance, which rises in Mont Genèvre, the Clairet and the Guizanne, which rise in Mont Thabor; all the three unite near BRIANÇON (4,284 feet). This stronghold, which defends the pass of Mont Genèvre, is the principal arsenal of the French Alps,

the point of concentration of the French forces between Mont Cenis and the pass of Tenda, between the Rhone and the sea. There is not a more remarkable military position: the top of the rounded hill on the slope of which the town lies, is crowned by *Fort Vieux;* several redoubts and lunettes command the Italian road, and the town has a triple enceinte; but the main fortifications are constructed on the opposite watershed of the Clairet; they communicate with the town by a marvellous bridge of 131 feet span, built 213 feet above the ravine through which the Clairet rushes. From this bridge an excellent road ascends to the forts, which are connected with one another by good paths and subterranean galleries; the largest of the forts is called *Trois Têtes*, it crowns a rounded height with a triple summit; on the same level stands fort *Dauphin*, situated on the frontier; 328 feet higher and near the Durance is the *Randouillet*, 656 feet higher the *Donjon*, and finally the lunette of *Point du Jour* commands all these defences. The rounded heights on which these forts and the town are built belong to Mont Infernet (7,872 feet), on the summit of which are still to be seen traces of a redoubt constructed in 1814.—From Briançon the Durance descends to the S.W. by a very rapid fall, and washes MONT DAUPHIN (3,149 feet), a stronghold fortified by Vauban, in an almost impregnable position, on a rounded eminence which commands the valleys of both the Durance and the Guil;—EMBRUN (Embrodunum, metropolis of the Maritime Alps), a stronghold, a very important and famous position in the time of the Romans; sacked by the Vandals, Huns, Lombards, Moors, &c.; taken by Lesdiguières in 1500, and by the Duke of Savoy in 1692; it has become of secondary importance since the construction of Mont Dauphin. Thence the Durance flows almost due south, washing SISTERON (1,571 feet), a town formerly fortified in a remarkable position at the confluence of the Durance and Buech, with a citadel perched on precipitous rocks commanding both rivers; then it flows westward in a broad, shifting, flat bed, covered with islands, and subject to dangerous floods, which carry away immense masses of good agricultural soil; it here washes CAVAILLON, and ends below AVIGNON, after a course of 186 miles. It is not navigable, owing to its rapid fall, the quantity of stones it carries down, and the deposits it forms, it is only used for floating down timber. Its bed is very wide, but is only full during the floods: it is the

most turbulent river in France. It is skirted almost continuously along its right bank by a high road from Briançon to Avignon, with offshoots to Gap and Digne.

Its tributaries are: 1, the *Guil* (on the left), which rises in the pass of Abriès, washes fort QUEYRAS (4,756 feet), situated on a precipitous rock in the midst of frightful ravines, the defences of the passes of Abriès and Agnello, and ends below Mont Dauphin.—2, the *Ubaye* (on the left), which rises in Mont Viso, bathes the fortress of TOURNOUX, which defends the pass of Argentière, washes the pretty town of BARCELONETTE (3,815 feet), and passes in front of fort ST. VINCENT, built on the first stage of the Croix de Colbas, a superb mountain that, together with the hill called Joug de l'Aigle (7,728 feet), seals the valley. This valley of Barcelonette, which has only belonged to France since 1713, is very important, not only on account of the way it opens into the Alps, but also on account of those that cross the White Mountains and lead to the Durance and into the whole of Provence; hence it has been necessary to close them by the fortresses of Sisteron, Seyne, and Colmars.—3, the *Blanche* (on the left) washes SEYNE, a small stronghold defended by a citadel.—4, the *Luye* (on the right) washes GAP (2,391 feet), chief town of the department of the Upper Alps, sacked by the Piedmontese in 1692.—5, the *Bleone* (on the left) washes DIGNE, chief town of the department of the Lower Alps.—6, the *Verdon* (on the left), washes COLMARS, a small stronghold defended by several forts.

Secondary Basins to the East of the Mouths of the Rhone.—1. The *Arc* flows past AIX (Aquæ Sextiæ, metropolis of Narbonensis I.), founded 123 years B.C. by the Romans, the ancient capital of Provence.

2. The *Argens* rises in the Esterel hills, runs from N.W. to S.E., receives the *Artuby*, which runs past DRAGUIGNAN, chief town of the department of Var, and ends in the gulf of Frejus; it is navigable for 37 miles.

3. The *Var*, which long served as the boundary of France, rises in Mont Cameleone, washes ENTREVAUX, a small fortress, and PUGET THENIERS; it receives the *Estcron* on the right, the *Vesubia* on the left, and ends at ST. LAURENT. Its course is 65 miles long, and it is not navigable; rapid, destructive, and often changing its channel, it is fordable almost everywhere, except in winter, when it becomes formidable by reason of its inundations.

It is not a very defensible line, especially on its left bank; still the heights covering that bank offer excellent positions. There is no bridge nor easy pass except at its mouth; everywhere else nothing but impracticable mountains are encountered. The bridge of St. Laurent is 2,624 feet long, and was the object of unsuccessful attacks in 1800 by the Austrians; at that period the line of the Var, ably defended by Suchet, was the salvation of France, and allowed Napoleon to prepare for his Marengo campaign.

4. The *Roya* rises in the pass of Tenda, washes SAORGIO, a remarkable position which defends the pass; battle of 1794, won by the French. It ends at VENTIMIGLIA, after a course of 30 miles. It forms a good line of defence, the right resting on Saorgio and the pass of Tenda, the centre at Breglio and Sospello, situated on a tributary, the left on the sea; it protects the pass of Tenda and the coast road, and forms the chief communication with Piedmont. The upper and lower parts of its basin belong to Italy, the middle of it to France.

5. The *Taggia* rises in the Ardente pass and ends at San Remo. It is a remarkable line of defence, but not so good as the preceding one; it is protected by the heights of Monte Grande, which descend to the sea. Its basin belongs to Italy.

6. The *Aroscia* rises in the pass of Nava and ends at ALBENGA; it protects the best line of defence along the whole coast; that which, resting on the sea at Borghetto, has its centre at Mont San Bernardo, and its right at Ormea, on the northern side of the Alps.—Its basin belongs to Italy.

A magnificent road called the *Cornice* crosses these streams and runs from Nice to Genoa. The narrow seaboard they traverse betwixt the hills and the sea is called *Riviera di Ponente*. We shall hereafter find that the seaboard between Genoa and Spezzia is called *Riviera di Levante*. These two *rivieras* together are called *Riviera di Genova*.

Political Divisions.—The basin of the Rhone, together with those of the Tech, Hérault, Var, &c., comprise:—

1. The cantons of *Valais* and *Geneva*, which belong to the Helvetic Confederation; under the Empire they formed the departments of Simplon, chief town Sion; and Leman, chief town Geneva.

2. The following twenty-two French departments: *Cote d'Or, Upper Saone, Doubs, Jura,* belonging to the 7th military division;

Saone and Loire, *Ain*, *Rhône*, *Dróme*, *Ardeche*, belonging to the 8th; *Isère*, *Savoy*, *Upper Savoy*, and *Upper Alps*, belonging to the 22nd; *Gard* and *Herault*, belonging to the 10th; *Aude* and *Eastern Pyrenees*, belonging to the 11th; *Vaucluse*, *Lower Alps*, *Bouches du Rhone*, *Var*, and *Maritime Alps*, belonging to the 9th.

RECAPITULATION OF THE FRONTIER OF FRANCE IN THE RHONE BASIN.

This frontier is divided into two parts—the *frontier of the Jura*, from Basel to Geneva, and the *frontier of the Alps*, from Geneva to the Sea.

The boundary of France on the frontier of the Jura commences in the neighbourhood of Basel, follows the line of hills separating the Birse from the Ill, then makes a turn in the line of the heights of the gap of Béfort, betwixt the Lorgue, a tributary of the Ill, and the Alle, a tributary of the Doubs; thence it follows a conventional line between Dolle and Porentruy, twice crosses the Doubs in the elbow it forms at Ste. Ursanne, follows this river to the falls of the Doubs between Morteau and Chaux de Fonds, then the crest of the Jura as far as Jougne, then a conventional line on the west side of the Jura as far as the Rousses pass; it gives the whole of this pass to France, following a conventional line on the east side of the Jura, between Gex and Copet, and between St. Genis and Geneva, until it reaches the Rhone between Geneva and fort L'Ecluse.

The frontier of the Jura is divided into two parts; that of the Doubs or northern Jura, and that of the Rhone and Ain, or southern Jura. In the first part the Jura is but an indifferent obstacle on account of its low elevation; besides it can easily be turned by three parallel rivers opening up natural roads in this direction, *viz.* the Doubs, the Ognon, and the Saone, all streams which offer no means of resistance. Accordingly, whilst the only defence constructed on the road from Neufchatel across the Jura is fort Joux, the road from Basel, which turns the Jura, is covered by Béfort, Montbeliard, Besançon, and further back by Auxonne.—In the second part, the Jura is high, thick, crossed by few roads: it offers a considerable obstacle; but the Rhone, though its rapid and broken course opens up no access to France, is of no value except through the hills among which it runs; as to the Ain it is of no use at all; finally this

part of the frontier may be turned, though with difficulty, by Geneva, and therefore the pass of Rousses, which leads to Besançon, and the road from Geneva to Lyons by fort L'Ecluse have been fortified.

The true bulwark of all this frontier, as also of that of the Alps, is the stronghold of Lyons, which closes the gate of Geneva, supports Besançon, completes Béfort, and in short whose principal object is to give efficacy to the neutrality of Switzerland. This neutrality of Switzerland, which has been the defence of France for two centuries, was formerly aided by the protectorate exercised by France over the republic of Geneva;* by the right she enjoyed to garrison the canton of Porentruy;† finally, by the fortification of Hüningen. Though now deprived of these guarantees, it is still the best defence of the frontier of the Jura, the north part of this frontier, or the gap of Béfort, being the most vulnerable point of France. In point of fact, by this fatal gap, such as it was made by the allies in 1815, France can be entered as it were by a wide gate, and an enemy can thence go where he will, to Strasburg, Besançon, Nancy, Dijon, to the Meuse, the Saone, the Marne, the Seine, indeed to Paris itself; owing to it, the best natural obstacles, the best artificial defences, the Rhine and the Jura, the Vosges and the Saone, the fortresses of Alsace and Franche Comté, are greatly diminished in value if not entirely nullified; in order to close it, it would be necessary to re-establish Hüningen, to take possession of and fortify Porentruy, and even to hold Basel. Fortunately, Lyons and Paris have been fortified; and thanks to those two great strategic centres, the neutrality of Switzerland cannot be violated with impunity. Moreover, this neutrality is now guaranteed by the possession of Savoy, by means of which all Switzerland is turned and menaced, and thereby the safety of the Jura frontier, and even that of the gap of Béfort, are assured.

The boundary of France on the frontier of the Alps runs from

* See the treaties of 1579, 1584, and 1782, which guaranteed the independence and the constitution of the republic of Geneva.

† See the treaty of 20th June, 1780, concluded with the Prince Bishop of Basel, which authorized the King of France, in time of war, "to prevent his enemies establishing themselves in the lands and lordships of the Bishopric of Basel, and to close the passes by which they might penetrate into his territory."

the Rhone between Geneva and L'Ecluse, follows the outline of the canton of Geneva, reaches the Lake of Geneva near Dovain, runs along the left bank of the lake to above Meillerie, follows the spur of the Pennine Alps which separates Valais from Savoy, and reaches the Pennine Alps at the Aiguille d'Argentières, near the Great St. Bernard and Mont Blanc. Thence it follows the crest of the Pennine, Graian, Cottian, and Maritime Alps, to near Mont Clapier, crosses the sources of the Vesubia and Tinea, and descends to the Mediterranean between Menton and Ventimiglia.

The frontier of the Alps, since the annexation of Savoy, is France's best frontier, because it is altogether natural and formed by the highest mountains in Europe. It may be divided into three parts: 1, the basins of Savoy and of the Isère; 2, the basin of the Durance; 3, the basin of the Var and the seaboard. The first part is excellent, resting on the one hand on the lake of Geneva and the neutrality of Switzerland; on the other hand, on the Pennine and Graian Alps, bristling all over with mountainous masses, and having only a small number of difficult roads, it could never be chosen as the point of an invasion; hence we do not find in Savoy a single stronghold, and in the basin of the Isère there are only Grenoble and Fort Barraut, which were intended to defend the ancient frontier, but which are now quite in the interior of France.

The second part of the frontier of the Alps appears to be naturally very good; but it is rendered defective by the direction of the upper part of the Durance, which runs parallel to the crest of the Alps; hence it follows that the tributaries on the left of this river are perpendicular to the frontier, and give access to France. It has therefore been found necessary to fortify the Durance and its tributaries: this accounts for the establishment of the strongholds of Briançon, which guards the pass of Mont Genèvre; of Queyras, Mont Dauphin, Embrun, which guard the passes of Abriès and Agnello; of Tournoux and St. Vincent, which guard the pass of Argentière; of Sisteron, Seyne, and Colmars, which guard the issues of the valley of Barcelonnette.

This part of the frontier has been the scene of several invasions during the last two centuries, because it was then, with the basin of the Var, the only accessible side of the eastern frontier. In fact, France could not be attacked either by the Isère, whose mountains are impassable, or by the Rhone, then

covered by the independence of Geneva, or by the gap of Béfort, because of the neutrality of Switzerland. Thus, on almost every occasion that France was attacked on the N.E. frontier, she was at the same time threatened at this part of the eastern frontier. For proof of this we may refer to the campaigns of 1692, 1707, 1746, &c.

We may add, that an invasion cannot be made simultaneously by the valleys of the Isère and Durance, because, though both have a common origin in the Alps, they descend from a semicircular block of mountains running excentrically to the frontier, diverge from one another from their source, are constantly separated by 93 miles breadth of the highest mountains, and finally fall into the great trench of the Rhone at 75 miles distance from one another.

The third part of the frontier of the Alps was formerly one of the most vulnerable; badly covered by the Var, it was only defended by Entrevaux in the interior and Antibes on the coast; since the county of Nice has been annexed to France, the state of things is altered: as France now possesses the basin of the Var with its enclosing mountains, and especially as she now holds the important fortresses of Nice and Villafranca, she has nothing to fear on this frontier. Moreover, invasions on this side are not to be dreaded, they lead to nothing, and have never been successful. Thus, the expeditions of the Constable of Bourbon and of Charles V. into Provence failed; and the same may be said of those of the Piedmontese in 1692 and 1707, and of the Imperialists in 1746.

§ VII.—WATERSHED OF THE GERMAN OCEAN.

This watershed is formed on the west: 1, by the northern side of the Central Alps; 2, by the northern side of the Bernese Oberland and of the Jorat; 3, by the eastern side of the Jura; 4, by the northern side of the Faucilles hills and of the plateau of Langres; 5, by the eastern side of the hills of the Meuse, of the western Argonne, and of the western Ardennes as far as Cape Grisnez.—It is formed on the east: 1, by the western side of the Grisons and Algau Alps; 2, by the south side of the heights of Constance and of the Black Forest; 3, by the north side of the Swabian Alps and Fichtelgebirge; 4, by the west side of the Rhöngebirge, Vogelsgebirge, Rothaargebirge, Eggege-

birge, and of the ill-defined low hills as far as the Zuyderzee.—The *French region*, bounded on the N.E. by the Rhine, only includes the western portion of this watershed, which contains the principal basin of the Rhine (left bank) and the secondary basin of the Escaut or Scheldt. The eastern portion belongs to the *German region* (see that region).

Encircling Mountains on the West.—1. The *Central Alps*, called also *Lepontian Alps*, lying between St. Gothard and Maloia, 56 miles in length, are the only part of the mass of the great Alps which belong to the general European water-parting; they run almost parallel to the equator, forming several elbows, and if they do not contain the loftiest peaks, they include the highest plateaus and the grandest mass of the mountains of Europe. In them the most remarkable rivers rise, from them the four great chains which go to make up Southern Europe are thrown off. In fact, in the St. Gothard group rise the Rhone, the Ticino, and the anterior Rhine (Vorder-Rhein), and from the same group are thrown off the N.W. or French Alps, which unite with the Pyrenees, and the S.W. or Italian Alps, which join the Apennines; from the Maloia rise the Inn, the Adda, and the posterior Rhine (Hinter-Rhein); and from the same block run the N.E. or German Alps, which join the Carpathians and the S.E. or Hellenic Alps, which join the Balkan.*

* See Europe, § II. The Central Alps being the nucleus of all the European mountains, we may here add some details respecting the remarkable blocks of St. Gothard and Maloia. [Lavallée's description having been found inconsistent with the new Swiss Government surveys and other recent Alpine authorities, has been altered accordingly.]

The block of St. Gothard is an immense group of rude rectangular form, the four sides of which face the cardinal points. It is bounded on the north and south by two large valleys, separated by the general water-parting of the continent, and both closed by a defile. On the north is the upper valley of the Reuss or Urseren Thal, at the outlet of which towards Lake Luzern is the famous Devil's Bridge and Uri Hole. On the south, the group descends to the upper valley of the Ticino, which dashes through the defile of Piattifer or Monte Piottino, to reach the Val Levantina and Lago Maggiore. On the east, it forms the head of the valley of the Further Rhine; and on the west, it terminates the valley of the Rhone.

The upper valleys of the Further Rhine, the Reuss, and the Rhone, run in the same direction; and are connected by the Furka Pass between the Rhone and the Reuss, and by the Oberalp Pass between the Rhine and the Reuss. The pass of St. Gothard itself crosses the block between the Reuss and the Ticino.

At the north-east angle of the St. Gothard block, and separated from it by the Furka Pass, is the group of Winterberg, including the Furkahorn (9,934 feet), the Galenstock (11,798 feet) and Damma Stock (11,910 feet), the last being the highest of this group and at the head of the Rhone Glacier.

Among the culminating points of the Central Alps are: the Piz Lungen (10,400 feet), the Pizzo Tambo (10,748 feet), the Rheinwaldhorn (11,148 feet).—Their passes are: 1, the *Splügen* (6,945 feet), from Splügen on the posterior Rhine to Chiavenna in the Ticino basin; in 1800, Macdonald, after incredible difficulties, succeeded in crossing this pass, then considered the most formidable on the Alps, and through which a fine road has since been constructed;—2, the *San Bernardino* (6,768 feet), from Splügen to Bellinzona, on the Ticino; this road meets the former one at Splügen;—3, the *St. Gothard* (6,935 feet), from Hospenthal on the Reuss to Airolo on the Ticino; in 1799 Souwarow crossed the Alps by this pass; it was then a horrible bridle-path, but it has now been made into an excellent road, the chief communication between Switzerland and Italy.

The general water-parting of the continent proceeds along the Bernese Oberland to the Grimsel Pass (7,231 feet), and thence rising northward along the west of the Rhone Glacier to the Damma Stock, descends by the Galenstock and Furkahorn on the east of the glacier to the Furka Pass (7,992 feet). Crossing this pass, it traverses the St. Gothard block by the following summits:—Mutthorn (10,180 feet), Leckihorn (10,016 feet), Pizzo Pesciora (10,246 feet), la Fibbia (8,996 feet), the hospice of St. Gothard on the road from Basel to Milan (6,935 feet), Sasso di San Gottardo (8,983 feet), Prosa or Blauberg (9,849 feet), and Puntanera, the eastern extremity of the group (9,173 feet). The general water-parting proceeds eastward by Corandoni (8,563 feet), across Val Termine (7,257 feet) to the Lukmanier Pass (6,289 feet), through which it is proposed to extend the railway from Coire on the Rhine into Italy. Among these summits the Pizzo Pesciora is remarkable as the source of streams running through the Rhone to the Mediterranean, through the Rhine to North Sea, and through the Po to the Adriatic.

The block of Maloia is the name given by Lavallée to the eastern extremity of the Central Alps, where the general water-parting of Europe turns northwards to follow the course of the Grisons Alps. The name is derived from the Pass of Maloggia (Maloia), which divides the waters of the Ober Engadin or upper valley of the Inn, a tributary of the Danube, from those of Val Bregaglia in the basin of the Po. These two valleys run in the same line from N.E. to S.W., and are separated at the Maloggia Pass (5,941 feet), from the basin of the Rhine by the so-called Maloia or Maloggia block, if that name be applied to the mountain mass bounded by the Engadin and Val Bregaglia on the S.E., by the Julier Pass (7,503 feet) on the north, and by the Septimer Pass (7,582 feet) on the west. The central part of this triangular mass is the Monte di Gravasalvas, having Piz Lungen (10,400 feet) at its northern extremity, and Pizzo Lunghino (9,120 feet) at its southern end. Pizzo Lunghino is the source of streams which fall through the Rhine into the North Sea,—through the Danube into the Black Sea,—and through the Po into the Adriatic.

The Cinnols summit, mentioned by Lavallée, is the Cinuols or Cimolt, now known as Piz d'Err (11,138 feet), due *north* of the Maloggia block. Piz Bernina (13,294 feet) is *eastward* of the same block, and separated from it by the River Inn.

The Central Alps send off three principal branches northwards, which, with their ramifications, constitute a large part of the Swiss mountains: 1, the *Grisons Alps*, which form the eastern enclosing heights of the Rhine basin, and of which we shall speak in detail when we come to the *German Region;* 2, a labyrinthine mass of mountains between the two sources of the Rhine; 3, the *Todi Chain*, which separates the Reuss from the anterior Rhine; it leaves the St. Gothard, runs N.E. parallel with the Rhine as far as the *Dödi* or *Todi* (11,886 feet), where it split into two branches: the one on the N.W., breaking up into innumerable ramifications, separates the Reuss from the Limmat; and the pass across it between the Linth and the Mutta (Muotta), called *Pragel*, is celebrated in Souwarow's march; the other, on the N.E., continues to skirt the Rhine as far as Sargans, where it becomes lower and divides into several branches which separate the Limmat from the Thur and the Rhine.

2. From St. Gothard the *Helvetic Alps* or *Bernese Oberland* run westward; they have been described in the basin of the Rhone (see p. 173); they throw off to the north very high spurs: 1, between the Reuss and the Aare, a dense and confused chain, which proceeding from St. Gothard runs north as far as Mont *Titlis* (10,626 feet), then to the N.W. as far as the confluence of the two rivers, ramifying among all their tributaries; 2, a lower and smaller chain between the Aare and Saane, which starts from the Geltenhorn and runs northwards.

3. The Bernese Oberland is connected by the Dent de Jaman with the *Jorat*, and this with the *Jura* by Mont Tendre. We have described the Jorat and Jura in the basin of the Rhone (see p. 172). The northern branches of the Jorat are only hills of moderate height, which run between the streams that flow into the Lake of Neufchatel; those of the Jura are larger, and run parallel to the crest, except in the northern part, where they diverge and run towards the Rhine.

About the elbow of the Doubs at Ste. Ursanne, the Jura unites with the hilly ground which lies between the Savoureuse and Ill, and which we have described in the basin of the Rhone under the name of the Gap of Béfort (see pp. 171 & 197). This elevated tract of country is connected with the Vosges by the Ballon d'Alsace.

The *Vosges* belong to the western enclosing heights of the basin by this hill only; they form a continuous and distinct

chain, which runs parallel to the Rhine from south to north, separating it from the Moselle. The principal block, that which is composed of high and dense mountains, that which offers a real military barrier, is between the *Ballon d'Alsace* (4,123 feet) and the *Donon* (3,312 feet), which commands the valley of the Bruche; these are the southern Vosges; they contain at a great height ponds, lakes, and marshy pits; their tops are conical balls of a rounded outline, densely wooded, and covered with pasture grounds. Beyond the Donon, the mountains decline in height rapidly towards the Lauter; these are the Central Vosges, their crests are low, smooth, and generally cultivated. At the sources of the Lauter they are merely hilly country, where it becomes difficult to trace the direction of the two branches into which the chain divides, in order to form the basin of the Nahe; the N.E. one is called *Hardt* and *Donnersberg;* it is from 984 to 1,312 feet high, and terminates by low hills near Mentz; the N.W. one is called *Hochwald* and *Hundsrücken;* it is better marked, runs in a semicircular direction betwixt the Rhine and Moselle, and ends near Coblenz. These hills, though not very high, make the country rather difficult, as their crests are wooded and their plateaus broken up by deep ravines. The whole length of the chain from the Ballon d'Alsace to the confluence of the Moselle is about 174 miles; its greatest width is about 42 miles near Colmar; it is not above 17 miles near Phalsbourg; its highest peak is the *Ballon de Guebwiller*, which is 4,694 feet high. The eastern slope of these hills is much more rapid than the western, and they have generally smooth and rounded forms, not very high summits and no precipices. The valleys that descend from the water-parting are transversal, excepting the two largest, the Ill on the east, the Moselle on the west; they open up such excellent and easy communications, that the Vosges can only be defended with great difficulty. The interior ravines are almost all accessible; the most southern are famous for Turenne's march in 1674. Principal roads: 1, from Epinal to Mühlhausen by the sources of the Moselle, the defile of Bussang and Thann; 2, from St. Dié to Colmar by the pass of Bonhomme; 3, from St. Dié to Schelestadt by the defile of Ste. Marie aux Mines; 4, from St. Dié to Strasburg by the pass of Schirmek; 5, from Sarrebourg by Phalsbourg and Saverne to Strasburg: this is the high road to

Paris; it is defended by Phalsbourg, and skirted by the Eastern railway; 6, from Sarreguemines to Haguenau by Bitche; 7, from Zweibrücken (Deux Ponts) to Landau; 8, from Sarrelouis to Mentz by Homburg and Kaiserslautern; 9, from Kaiserslautern to Mannheim (railway from Metz); 10, from Treves (Trier) to Mentz.

4. The Ballon d'Alsace joins on the west the *Faucilles Hills* and the *plateau of Langres*, which separate the Rhine and Rhone basins. We have already described them, pp. 141 and 171.

From the plateau of Langres and behind the sources of the Saone, there runs a narrow chain northwards between the Meuse and Moselle; about Toul, where it is most contracted by these two rivers, it is called *Eastern Argonne*, and it and the Western Argonne (see p. 149) together form on both banks of the Meuse a very confused mass of wooded heights. It is an advanced terrace of the Vosges, not above 700 or 1,000 feet high, but very rugged, precipitous, and abounding in obstacles; it hangs over the course of the Meuse, to which it sends scarcely any streams, and it rushes from the Moselle, to which it gives several tributaries. At the source of one of these tributaries, the Ornes, this line of heights runs from east to west, it then turns northwards by numerous and confused elbows between Montmedy and Luxemburg; it there takes the name of *Eastern Ardennes*, and forms a mass of wooded heights, without any distinct water-parting, separating the tributaries of the Meuse from those of the Moselle. About the sources of the Roer it is called the *Eifelgebirge*, wild and formerly volcanic hills from 2,296 to 2,624 feet in height; it then runs very confusedly from west to east, and becomes lost on the Rhine at its confluence with the Moselle. The Eirge Gipfel sends off northwards the spur of the Hohe Venne, between the Ourthe and the Roer, a table-land of bogs and moors, 1,500 to 2,000 feet high, which spreads by various branches between the Roer, Vesdre, Ambleve, &c.

5 and 6. From the plateau of Langres the *Meuse Hills* are thrown off, and run between the sources of the Marne and Meuse; they are followed by the *Western Argonne* and the *Western Ardennes* as far as Cape Grisnez; this series of heights, which we described under the Basin of the Seine (p. 149), complete the western boundary of the Rhine basin.

General Aspect.—The basin of the Rhine is naturally divided into three parts: 1, the basin of the Upper or Swiss Rhine, from

the source of the river to Basel; a vast, almost circular tract, surrounded by a dense ridge of mountains, abounding in peaks, lakes, and streams, where there are but few plains, and those very circumscribed in extent, and where the valleys alone open up great communications; 2, the basin of the Middle or French and German Rhine, from Basel to Wesel, an immense quadrilateral space comprised betwixt Basel, Wesel, Metz, and Nürnberg, one of the richest and most densely peopled districts in Europe, traversed by mountain chains parallel to the course of the river, and which separate it from its tributaries; the most remarkable are the Vosges and the Black Forest, which enclose the Rhine in a long and narrow valley of great fertility and most picturesque appearance; 3, the basin of the Lower or Dutch Rhine, broad and level without enclosing heights, open on every side, covered with water and marshes, broken into fragments by inundations of the sea, and of which the parts near the sea are below the level of high water; the climate is unhealthy in many places; the land, abundantly watered by innumerable canals and streams, is almost everywhere fertile; some parts are covered with heath.

We now proceed to describe the basin of the Rhine (left bank) according to these three divisions, and we shall add to the last the description of the basin of the Escaut (Schelde), of the coast currents, and finally of the coast from Cape Grisnez to the mouth of the Waal.

1.—BASIN OF THE UPPER RHINE.

Course of the Rhine.—The *Rhine* (Rhenus) is formed by numerous sources that rise in the Central Alps, the principal of which are the posterior and anterior Rhine. The *posterior Rhine* (Hinter-Rhein) rises by two sources from the Rheinwaldhorn and the Septimer, runs from S.W. to N.E., washes SPLÜGEN, flows through the valley called Via Mala, the route taken by Macdonald in 1800, reaches TUSIS, and turns N.W. to join the *anterior Rhine* (Vorder-Rhein). The latter rises near the pass of Ober Alp at a height of 9,000 feet, in the group of St. Gothard; it runs to the N.E., receives several torrents, the largest of which joins it at DISENTIS, and is called *Middle Rhine* (Mittel-Rhein); it then runs through a rugged and deep valley surmounted on every side by glaciers, washes ILANZ, and then turns almost due east to join the other Rhine at REICHENAU.

From Reichenau the river is forced by the mountains that hem it, especially on its left, to follow a tortuous course, inclining now to N.E., now to N.W.; in this way it passes, at a distance of 5 miles, CHUR (1,938 feet), the capital of the canton of Grisons (Swiss Confederation); near MAYENFELD (right bank), whence a road runs west into the basin of the Limmat; between LUZIENSTEIG, a fortified post on the road that skirts the right bank of the river, and SARGANS, whence a road starts that skirts the left bank. It leaves the canton of Grisons, and serves as the boundary between the canton of St. Gallen (Swiss Confederation) and Lichtenstein, an independent German principality; it then reaches VADUZ, capital of this small principality. It is constantly hemmed in on the left by a wall of mountains, which permits its receiving any tributary, whereas on the right it is augmented by several streams, because it is enclosed only by mountain ranges perpendicular to its course. At the confluence of the Ill, it forms the boundary between Switzerland and Tyrol. Below Rheineck it falls into the *Lake of Constance* or *Bodensee*, after a course of 75 miles. This lake, which is 1,305 feet above the level of the sea, is 50 miles in length from east to west, and separates the cantons of St. Gall and Thurgau (Swiss Confederation) from Tyrol, Bavaria, Wurtemberg, and Baden. A peninsula formed by the right bank separates the lake of Constance from that of *Zell* or Lower Lake, through which also the Rhine flows. The town of CONSTANCE is on the left bank of the strait which joins the two lakes, with a suburb on the right bank. These lakes are of great importance in a military point of view, because they intersect operations directed from the Danube against Switzerland, and *vice versâ*, and separate Swabia from Tyrol. (See Danube Basin.)

The Rhine on leaving the lake of Zell (Untersee) runs in a westerly direction, and washes SCHAFFHAUSEN (right bank), a very important town for passing from the basin of the Rhine into that of the Danube, capital of a Swiss canton, which lies almost entirely on the right bank of the river. Below this town it meets with a small chain of the Alps, which runs athwart its course to join one of the branches of the Black Forest, which accounts for the formation of the lake of Constance, and it can only get over this chain by making a fall of from 40 to 65 feet. It then flows S.W. with great rapidity to the confluence of the Töss, and runs through a defile hemmed in between the moun-

tains on both sides, separating the cantons of Argau and Basel from the Grand Duchy of Baden; it receives the waters of the Aare at WALDSHUT (right bank); makes a fall at LAUFFENBURG (left bank); forms a dangerous turn at RHEINFELDEN (left bank), formerly a fortified town; battle of 1638, where the Imperialists beat the Duke Bernard of Weimar, who had his revenge three days later in the very same place; finally, it reaches BASEL, a large town lying on both banks of the river, chief town of a Swiss canton, where the roads from Southern Germany to France meet. Here the allies passed in 1814 and 1815.

The Rhine from its sources to Basel answers the purposes of a ditch for the defence of the main part of Switzerland from invasions from Tyrol on the east, and from Swabia on the north; the lake of Constance protects the centre of this line, which Massena made use of in 1799 to cover Switzerland. Those towns situated on the Rhine from Constance to Basel at the entrance to the Black Forest are called *forest towns;* they formerly belonged to Austria, who gave them up to France in 1801, by whom they were given to Switzerland; they are highly important in a military point of view, not only because they cover the Rhine, but because they are intimately connected with the defence of the Upper Danube. The roads running from them, particularly those from Waldshut to Donaueschingen, and from Schaffhausen to Stockach, are very remarkable, as they offer the easiest access to the basin of the Danube, turning the defiles of the Black Forest (see that Basin). It was by these forest towns that the French penetrated into Germany in 1800; it was through them that the neutrality of Switzerland was violated in 1814, and France invaded.

Tributaries on the Left.—1. The *Thur* rises from the Churfirsten hills, which enclose the Wallenstadt lake; it flows to the N.W., as though about to run into the Bodensee; but on reaching BISCHOFSZELL, where it receives the *Sitter*, which flows by APPENZELL and not far from ST. GALLEN, chief towns of two Swiss cantons, it turns to the west, runs parallel to the Rhine, leaving on its left FRAUENFELD, chief town of Thurgau, a Swiss canton, and terminates between Schaffhausen and Eglisau.

2. The *Töss* passes by WINTERTHUR, where the roads from Schaffhausen and Constance to Zürich meet.

3. The *Glatt* issues from the *Greifensee.*

These three unnavigable rivers are of no importance, except from their being parallel to the Rhine; their volume of water is not great, but the defiles they form, the rugged country they flow through, the roads from Constance and Schaffhausen to Zürich they cover, make them three good lines in rear of the river. They were ably defended by the French in 1799.

4. The *Aare* (Ararius) rises from the glaciers of the Finster Aarhorn; it runs N.W. as far as Lake *Brienz* (1,853 feet), traverses this lake from N.E. to S.W., washes INTERTAKEN and UNTERSEEN, traverses Lake *Thun* (1,837 feet), from S.E. to N.W., washes THUN, runs north as far as BERN, the chief town in Switzerland, defended by some fortifications, taken by the French in 1798; pop., 29,000.—Thence it makes numerous windings, washes AARBERG, turns to the N.E., washes SOLOTHURN or SOLEURE, chief town of a Swiss canton, where the roads from Bern, Basel, and Neufchatel meet;—AARBURG, a fortified town, containing the federal arsenal;—AARAU, chief town of the canton of Argau;—SCHINZNACH, a hamlet near which stand the ruins of the castle of *Hapsburg*, the cradle of the house of Austria. It terminates opposite Waldshut by a very rapid current in a channel obstructed by rocks, with very precipitous banks. The volume of water it brings into the Rhine is greater than that of the Rhine itself. Its course describes a semicircle of upwards of 250 miles in length, its source and its confluence lying in the same meridian; the radius of this semicircle is about 100 miles. Its basin includes the major part of Switzerland; it is formed on the west by the Bernese Oberland, the Jorat, and the Jura; on the east by the mountains that enclose the Rhine as far as Sargans, and then by those that separate the Limmat from the Thur.

Tributaries of the Aare on the Left.—1. The *Simmen* falls into the lake of Thun, after having been joined by the *Kander*.

2. The *Saane* or *Sarine* rises in the Diablerets, flows N.W., washes FREIBURG, chief town of a Swiss canton, taken by the French in 1798; it is joined by the *Sense* at LAUPEN, battle of 1339, when the Bernese beat the Austrians, and falls into the Aare between Aarberg and Bern. The Sense, which runs parallel to the Aare, is fringed by rocky heights which cover Bern; the Swiss endeavoured to defend them against the French in 1798 at NEUENECK and FRAUBRUNNEN, but were beaten.

3. The *Thiele* or *Zihl* issues from the lake of *Neufchatel*.—This lake, parallel to the Jura, is 1,427 feet above the level of the sea; it is 20 miles long by about 5 broad; on its banks lie YVERDUN, GRANSON, battle of 1476, won by the Swiss over Charles the Bold, NEUFCHATEL, chief town of a Swiss canton; it receives: 1, the *Orbe*, which ends at Yverdun;—2, the *Broye*, which traverses Lake *Morat*, on the banks of which was fought the battle of 1476, in which Charles the Bold was beaten.—The Thiele then runs through the lake of *Bienne*, and falls into the Aare.

Tributaries of the Aare on the Right.—1. The *Emmen* rises in the Brienz hills, runs from S.E. to N.W., and terminates below Solothurn.

2. The *Suhren* issues from Lake *Sempach* (1,663 feet), battle of 1386, in which the Swiss beat the Austrians, and ends below Aarau.

3. The *Reuss* rises by two sources in the Furka and St. Gothard at the height of 7,992 and 6,935 feet, which unite at HOSPENTHAL, commencement of the St. Gothard road; it runs northward through frightful chasms, passes the *Uri Hole*, a tunnel 262 feet long, which we must go through before coming to the Devil's Bridge, which connects two precipitous rocks; Suwarow forced his way through this tunnel in 1799, after a severe fight. After this the Reuss passes near ALTORF, chief town of the canton Uri, and runs through the tortuous lake of *Luzern*, or *Four Cantons* (1,433 feet), which last name it derives from the cantons Unterwalden, Uri, Schwyz, and Luzern, which surround it. On the left of this lake lies STANZ, chief town of the canton Unterwalden; on the right, SCHWYZ, chief town of the canton of that name, situated in the *Muotta* valley, celebrated in Suwarow's march.—The Reuss leaves the lake at LUZERN, chief town of the canton of that name, flows through a very narrow valley in a N.W. direction, and ends below Brugg; it receives the waters of the lake of *Zug* and the waters of the *Egeri* Lake, at the south end of which is the *Morgarten* hill, celebrated for the battle of 1315, when the Swiss beat the Austrians.—This river divides Switzerland almost through the middle, and is skirted throughout its whole course by the road from St. Gothard to Luzern and from Luzern to the Rhine; it is the principal and shortest road

between Germany and Italy, and offers great advantages to an army which is in possession of its whole length; it is constantly hemmed in by precipitous rocks, and only opens up on the lakes; it is not accessible except by the footpaths which issue from the lateral valleys.

4. The *Limmat*, under the name of *Linth*, rises in the Tödiberg, flows from south to north, receiving the streams from the wild valleys of *Engi* and *Klör*, celebrated in Suwarow's march; it passes near GLARUS, chief town of the canton of that name; receives on its right the waters of Lake *Wallenstadt*, with which it is connected by a canal; it then turns to the N.W., when its course becomes rapid and its banks marshy, flows through Lake *Rapperschwyl*, which forms the eastern part of the lake of Zurich, washes RAPPERSCHWYL, a small town formerly fortified, flows through the lake of *Zürich* (1,342 feet), from S.E. to N.W. issues from it under the name of *Limmat*, at ZURICH, chief town of the canton of that name.—This town, one of the largest in Switzerland, is a strategic position of great importance, as it contains the best passage across the Limmat, and is the converging point of the roads from Switzerland and Germany; ill-fortified and commanded by neighbouring heights, it served as a refuge to Massena in 1799; he there fought the first battle of Zurich, and having evacuated the town, entrenched himself on the western heights; thence he recrossed the Limmat to Dietikon, and fought the second battle all along the course of the Linth-Limmat for twelve days, which saved France from invasion.*—Below Zurich the Limmat receives the *Sihl*, whose long, narrow valley, parallel to the lake, played an important part in the campaign of 1799; it then washes BADEN, and falls into the Aare close to the Reuss.—This river is the fourth in rear of the Rhine, and the best defensive line of Switzerland; all the country between it and the Glatt bristles with mountains, ravines, wooded hills, marshy valleys, and is well adapted for guerilla warfare. With the Upper Reuss, with which it is well connected by the pass of Pragel, it forms a formidable line, short, compact, dividing Switzerland in the middle, and which cannot be turned without great difficulty, either by the Aare on the north, or St. Gothard

* See the account of this battle and the topography of Zurich in the *Campaign of* 1799, by Archduke Charles V., v. i., p. 326.

on the south; this is the line Massena so happily availed himself of in 1799.

Remainder of the Tributaries of the Upper Rhine on the Left.—5. The *Birs* rises from the northern summits of the Jura, flows from S.W. to N.E., washes DELSBERG (Delemont); it is skirted by the road from Neufchatel to Basel, which being parallel to the Jura holds all the entrances to France, and it ends above Basel; on its banks and near this town was fought the battle of 1444, in which the French beat the Swiss.

Political Divisions.—The basin of the Upper Rhine includes almost the whole of 19 out of the 22 cantons that make up the Helvetic Confederation (those of Geneva and Valais belong to the basin of the Rhone, that of Tessin to the basin of the Po). The origin of this Confederation dates as far back as 1115, when the inhabitants of Helvetia shook off the yoke of their imperial masters and formed themselves into a Federal Republic, whose existence was not recognized until the peace of Westphalia. It was then composed of 13 cantons: Luzern, Uri, Schwyz, Unterwalden, Zug, Freiburg, Solothurn, Zürich, Bern, Basel, Schaffhausen, Glarus, and Appenzel, having as vassals the Vaud country, the towns of Tessin (see Basin of the Po), and Thurgau, and as allies, St. Gallen, Graubündten (Grisons), Valtelina, Wallis (Valais), Geneva, Neufchatel, Mühlhausen, &c. A revolution that broke out in 1803 added 6 new cantons to the 13 old ones: Argau, St. Gallen, Graubündten, Tessin, Thurgau, and Waadt (Vaud); and the treaty of 1814 gave besides Wallis, Geneva, and Neufchatel. This Confederation is governed by a general diet, which regulates the exterior relations of the country, but each canton forms a separate state and governs itself. Zürich, Bern, and Luzern are alternately the seat of the diet. The Federal budget is only 440,000*l.*; the Confederation has no standing army; but the federal contingent is about 34,000 men, with a reserve contingent of equal strength. The aristocratic constitution of the Swiss cantons, destroyed by the revolutions of 1798 and 1803, was re-established in 1815; since 1830 it has again been destroyed in all the cantons, in every one of which the constitution is a democratic republic. Thirteen twentieths of the population are of German, five-twentieths of French, and two-twentieths of Italian race. The French cantons are Neufchatel

Geneva, Vaud, and part of Solothurn, Freiburg, Bern, Basel, and Valais; Tessin and a portion of Valais and Grisons are Italian. Three-fifths of the population are Calvinists, two-fifths Catholics.—Switzerland has been declared by treaties to be perpetually neutral, in order to prevent a collision between France and Austria. Were it not for this neutrality, the line of the Rhine would be a mere illusory barrier for all parties, and the great body of the Alps would offer no obstacle to the invasion of France; but by means of this neutrality Germany and Italy are separated, and the access to both these countries is protected by the remarkable projections of Schaffhausen and the Simplon. This neutrality is particularly advantageous for France, because it effectually prevents any combination between German armies on the Rhine and in Italy, whilst it covers without lengthening the communications of France, and places beyond the reach of attack the most vulnerable part of its frontiers. Still the advantage afforded to France by the neutrality of Switzerland and the inviolability of its territory is not decided except in the case of an absolutely passive defensive war limited within the actual boundaries of France: but supposing the French armies were occupying Lombardy or even Piedmont only, their position would not be secure unless they held the heights of the great Alps, and could command the principal communications between Switzerland and Italy.*

2.—BASIN OF THE MIDDLE RHINE.

Course of the River.—At Basel, the Rhine, hemmed in between the last slopes of the Jura and Black Forest, turns abruptly northwards and flows in that direction during almost its whole remaining course. It leaves Switzerland, forms the boundary betwixt France and Germany, and then changes its character entirely: in Switzerland it was an impetuous torrent, deflected by mountains, interrupted by numerous falls; in France it is a fine expanse of water, studded with numerous wooded islands, sending off many branches, undermining its banks and changing its channel; its bed is so broad and its islands so numerous, that it is difficult to guard a bank sufficiently so that an enemy

* Mathieu Dumas, *Précis des Evénements Militaires*, v. i., p. 75.

cannot force it. It leaves on the right the plains of FRIEDLINGEN, where Villars thrashed the Imperialists in 1702; washes HÜNINGEN, a stronghold fortified by Vauban, whose guns could reach the bridge of Basel, and which, while it covered the flank of the Gap of Béfort, prevented the Rhine being turned and protected the neutrality of Switzerland: it was dismantled by the treaty of 1815, whereby the frontier of France has sustained an irreparable injury. The Rhine then passes at 1 mile distance from NEW BREISACH, a stronghold constructed by Louis XIV., on the Alsace canal, with fort *Mortier* for an advanced work; opposite is OLD BREISACH, formerly a very strong fortress and one of the keys of Germany, celebrated for the siege of 1638.—Then the Rhine passes at the distance of ¼ mile from STRASBURG, lying on the left bank near the confluence of the Ill, which runs through it by several branches, the ancient capital of Alsace, chief town of the department of Lower Rhine and of the 6th military division, with a military school, an arsenal, a cannon foundry, a garrison, and an artillery school, &c.; population, 82,000. It is the centre of the defence of the frontier of the Rhine and one of the strongest fortified towns in Europe; its citadel is composed of five bastions, the exterior works of which extend as far as one of the arms of the Rhine, and its defensive system is completed by a sluice, by means of which the surrounding country can be inundated. An Imperial free town for more than eight centuries, it was taken by Louis XIV. in 1681, and incorporated with France; it is the birthplace of Kleber. Opposite to it, and connected by a bridge of boats and a fine railway bridge, lies KEHL, a town fortified by Vauban, ceded to Baden by the treaty of Riswyck, taken by the French in 1703, 1733, 1793, and 1796; the French were besieged in it in 1797, now dismantled.—From Strasburg, the Rhine continues in the same direction and with the same characters; it leaves on its right bank STOLLHOFEN, celebrated in former days for its lines, which were carried by Villars in 1707; on one of its islands is FORT VAUBAN, taken by the Austrians in 1793 and 1814, now in ruins; it leaves France at the confluence of the Lauter.

It then separates Rhenish Bavaria from the Grand Duchy of Baden, passes at a distance of 5 miles from CARLSRUHE, capital of Baden, washes GERMERSHEIM (left bank), a stronghold of the

late Germanic Confederation;—PHILIPPSBURG (right bank), a town formerly strongly fortified, now ruined; taken in 1688, 1734, and 1799 by the French, to whom it belonged from 1648 to 1678: it was in those times the principal key to Germany.* It then passes SPEYER, situated at the confluence of the Speyerbach, taken by the French in 1634, 1689, 1792, 1793; battle of 1703, won by Tallard over the Imperialists;—MANNHEIM, situated on the right bank, at the confluence of the Neckar, formerly a strongly fortified town, having nothing now but an arsenal, taken by the French in 1688 and 1795.—Thence the river runs through the Grand Duchy of Hesse Darmstadt, washing WORMS, burned by the French in 1689;—MENTZ, MAINZ or MAYENCE (Maguntiacum, metropolis of Germania I.), situated on the left bank at the confluence of the Main, a very strongly fortified town, of semicircular form, the Rhine being the diameter, covered by three fronts of fortifications, on the north, west, and south, comprising 14 bastions and a double enceinte defended by 6 forts, the largest of which is Hauptstein, which commands all the environs; the islands in the Rhine are fortified, as is also the suburb of CASSEL, on the right bank. Mentz was formerly the capital of an ecclesiastical electorate; taken by the French in 1792, retaken by the King of Prussia in 1793; ceded to France by the treaty of Campo Formio, it remained in her possession until 1814, when it was given to the Grand Duke of Hesse Darmstadt, and declared to be a fortress of the Germanic Confederation. Since 1866 it has been formally annexed to Prussia. It is the great bulwark of Germany against France, it has the chief command of the roads to Strasburg and Metz. From this town to BINGEN the river runs in a westerly direction, and its valley, fringed at some distance by hills covered with vineyards, presents a panorama of great beauty; below Bingen the hills close in upon it and obstruct its course by grand banks and rocky islands. From Mentz to Bingen, it separates the Grand Duchy

* Nothing shows more clearly the change in the position of France relating to Germany than the establishment of Germersheim and the annihilation of Philippsburg. Philippsburg was formerly a bridge-head on the right bank of the river, belonging to France, and designed to open Germany to her. Germersheim is now a bridge-head on the left bank of the river, belonging to Germany, and designed, with the support of Landau and Sarrelouis, to open to her an entrance into France.

of Hesse Darmstadt from the former Duchy of Nassau, then it flows N.W., separating Nassau from the Rhine Province, now both Prussian; it then washes KAUB, where the Prussian army crossed in 1814. It continues to flow through the Prussian states and washes COBLENZ, a fortified town, situated on the left bank, with the formidable fortress of EHRENBREITSTEIN on the right bank, taken by the French in 1799. After Coblenz the river continues in the same direction, flowing through a fertile country, in a single, broad, and majestic channel, the passage of which might be easily defended. It washes NEUWIED, where the French under Hoche crossed the Rhine in 1797, and beat the Austrians; —BONN, left bank, formerly fortified; —KÖLN or COLOGNE (Colonia Agrippina, metropolis of Germania II.), left bank, a large town with a population of 114,000, formerly the capital of an ecclesiastical electorate, now the chief town of Rhenish Prussia, a first-class stronghold, connected with DEUTZ on the left bank, which is also fortified, by a bridge of boats 3,116 ft. long, and a magnificent railway bridge.—It leaves on the right NEUSS, situated on the Erft, a fortified town, celebrated for the siege it sustained in 1475 against Charles the Bold; taken by the French in 1794 and by the Prussians in 1813; it washes DÜSSELDORF, an important town formerly fortified; passes 2 miles from CREFELD, battle of 1758, won by the Prussians over the French, and farther on, not far from RHEINBERG, a town formerly fortified and which has undergone numerous sieges; not far from it is KLOSTERCAMP, battle of 1760, gained by the French over the Hanoverians. The country on the right of the river is hilly, with frequent heaths and sandy tracts; the country on the left is flat, covered with brooks and canals, wherein lies its strength. The Rhine then flows by WESEL (right bank), a very strongly fortified town, the principal work of which is Fort Blücher, with a bridge-head on the left bank; it next reaches Fort SCHENK, celebrated for the passage of the French in 1672; here it leaves the Prussian states and enters Holland.

Tributaries on the Left.—1. The *Ill* rises among the last heights of the Jura, runs almost parallel to the Rhine, and washes: ALTKIRCH, situated on the road from Basel to Béfort;—MULHOUSE, or MÜHLHAUSEN, formerly a small republic in alliance with the Swiss, annexed to France in 1798, now a great manu-

facturing town; battle of 1674, when Turenne beat the Imperialists;—COLMAR, chief town of the department of the Upper Rhine, where the Ill becomes navigable;—SCHELESTADT, a stronghold fortified by Vauban, which defends the defile of Ste. Marie aux Mines. It approaches ever nearer and nearer to the Rhine, passes through Strasburg by three branches, and ends 2 miles below that town, after a course of 94 miles. After quitting Mühlhausen, it flows through a perfectly flat country, is skirted by the Alsace Canal, which connects the Rhone with the Rhine, and by the railway from Strasburg to Basel, and it receives: 1, the *Fecht*, which flows by TURKHEIM; victory of Turenne over the Imperialists in 1674; 2, the *Brusche*, which passes MUTZIG, manufactory of firearms, MOLSHEIM, manufactory of swords and bayonets, ENSHEIM, battle of 1674, won by Turenne over the Imperialists.

2. The *Moder* rises in the Vosges by two streams: one rises near PETITE PIERRE, a fortress which defends a defile of the Vosges; the other passes near LICHTENBERG, a military post. It flows from west to east, and washes HAGUENAU, a stronghold defended only by a wall flanked by towers, taken by the Austrians in 1793; battle of 1793, when Hoche and Pichegru beat the Austrians. Above DRUSENHEIM it turns to the N.E., skirts the Rhine, and ends below the island of Fort Vauban. It receives the *Zorn*.—This river leaves on its left PHALSBOURG (1,178 feet), a town fortified by Vauban, situated near the crest of the Vosges, and which defends the great Strasburg road; it washes SAVERNE, a town formerly fortified; DETTWEILER, where Turenne pitched his camp in 1674, and ends below Drusenheim.

3. The *Lauter* rises in the Vosges, leaves on its right PIRMASENS, battle of 1793, where the French were beaten by the Prussians, flows from west to east, enters France, washes WEISSEMBOURG, a stronghold defended only by a wall, and celebrated for the lines that skirt the course of the Lauter as far as the Rhine; these lines and the town were taken by the Austrians in 1793, and were retaken by Hoche after the battle of Geisberg. The Lauter ends below LAUTERBOURG, a small fortress, taken by the Austrians in 1793.

These three tributaries belong to France, and their basins compose the ancient province of Alsace, annexed to France in

1648. It is quite a military country, and forms a very good natural frontier to France.

4. The *Queich* rises in the Vosges and washes LANDAU, a town fortified by Vauban, taken by the Imperialists in 1701, vainly besieged by the Austrians in 1793, taken from France in 1815, whereby the Vosges are left open on that side, so that an enemy can here turn the frontier of the Rhine; this town belongs to Bavaria, and was one of the fortresses of the late Germanic Confederation. The Queich ends at Germersheim.

5. The *Nahe* rises in the Hundsrücken; it washes KREUZNACH, a military position commanding the road from Mentz to Sarrelouis, receives a tributary, the *Glane*, which flows by KAISERSLAUTERN, battle of 1793, won by the French, and terminates at Bingen.

6. The *Moselle* (Mosella) rises in the Faucilles Hills, flows N.W., washes REMIREMONT;—EPINAL, chief town of the department of Vosges;—TOUL, a stronghold irregularly bastioned, which seals the road from Nancy to Bar; the birthplace of Gouvion St. Cyr; here the river changes its direction to N.E., which it continues to its termination;—FROUARD, facing the confluence of the Meurthe, at the point of union of the Metz and Strasburg railways;—PONT-A-MOUSSON, cavalry garrison;—METZ, a first-class stronghold, chief town of the department of Moselle, and of the 5th military division, school of practical artillery and engineering, artillery, engineer and military train garrison, military school, arsenal, cannon foundry, powder mills, &c.; it is the centre of the defence of France between the Meuse and the Rhine; its chief works in advance of the enceinte fortified by Vauban are the double *crownworks of Moselle and Belle-Croix*, Cormontaigne's master-piece. The Moselle next washes THIONVILLE, a stronghold composed of eleven bastions, covered by some advanced works; a fort and a hornwork defend the right bank of the river, and command the Saarlouis and Treves roads; besieged by the Prussians in 1792 and 1814. It leaves France at SIERCK, a small town formerly fortified, and enters the Prussian States, where it washes TRIER or TREVES (Treveri, metropolis of Belgica I.), one of the most ancient cities of Gaul, formerly capital of an ecclesiastical electorate, taken by the French in 1681, 1703, 1705, 1734, and 1794. It falls into the Rhine at Coblenz.

This river, whose course is very winding, can be crossed everywhere in France; without shoals, islands, or marshes, it resembles a canal artificially constructed through the meadows; it opens a passage between the Vosges and the Ardennes by the two roads of Treves and Luxemburg on Thionville. Out of France it is less easy to cross, because it becomes tortuous and deep, with precipitous banks; because the country abounds in rocks and forests; finally, because there are few roads. Its course is 286 miles in length, 162 of which are in France; its mean breadth in France is about 246 feet; at Treves, about 459 feet; at Coblenz, about 656 feet; it is navigable from the confluence of the Meurthe for 186 miles; it is liable to frequent floods. It has many tributaries:

1. The *Meurthe* (on the right) rises in the Vosges, flows from S.E. to N.W., washes St. Dié, centre of the roads which come from the Vosges, runs near Lunéville, cavalry garrison, treaty of peace of 1801; washes Nancy, the ancient capital of Lorraine, chief town of the department of Meurthe, battle of 1477, where Charles the Bold was killed.

2. The *Seille* (on the right) washes Marsal, a fortified town, which played an important part in the seventeenth century, and which has been restored; it is situated in a marshy and almost inaccessible plain, and is connected on the one side with Phalsbourg, on the other with Metz, in order to cover the space between the Moselle and the Vosges hills. The Seille ends at Metz. It is fringed with ponds and marshes, which contribute to the defence of Metz.

3. The *Sure* (on the left), rises in the Eastern Ardennes, runs a winding course through an unfertile and scantily peopled country, and terminates not far from the confluence of the Saar. It receives numerous tributaries, the most remarkable of which is the *Alzette*, which flows through a deep and rocky valley, washing Luxemburg, one of the strongest fortresses in Europe; taken by Louis XIV. in 1684, and fortified by Vauban; taken by the French in 1795; chief town of the department of the Forests until 1814; now the capital of Dutch Luxemburg. It was one of the fortresses of the Germanic Confederation, after the dissolution of which it remained in the hands of Prussia, until the Treaty of 1867, whereby it was dismantled, given over to

the Duke of Luxemburg (King of the Netherlands), and its neutrality guaranteed by the great powers of Europe.

4. The *Sarre* or *Saar* (on the right) rises in the Vosges, flows from south to north, washing SARREBOURG, leaves France below SARREGUEMINES, cavalry garrison, after receiving the *Blise*.—This river receives the *Erlach*, which passes at DEUX PONTS or ZWEIBRÜCKEN, the capital of Rhenish Bavaria, and the Erlach itself is joined by the *Schwolb*, which passes near BITCHE, a small fortified town that covers the entrance to the Vosges, and which is defended by a very strong citadel.—The Saar then flows parallel to the frontier of the Prussian States, and washes SAARBRUCK; —SAARLOUIS, a very strong fortress, founded by Louis XIV., constructed by Vauban; the birthplace of Ney; taken from France in 1815, whereby all that part of the frontier comprised between the Vosges and the Moselle is left open; it is then joined by the *Nied*, runs parallel to the Moselle, and ends above Treves. —This river runs through a very broken country, abounding in woods and ravines, and becomes so hemmed in and so rapid near Saarlouis, that its navigation is dangerous. The best part of its course and the fortress commanding it being in possession of the Prussians; it completely opens the frontier of France between Strasburg and Metz.

Political Divisions.—The basin of the middle Rhine, from Basel to Coblenz, comprises politically: 1, the following departments of France: *Upper Rhine*, *Lower Rhine*, which form part of the 6th military division; *Vosges*, *Meurthe*, *Moselle*, which form part of the 5th military division.

2. *Rhenish Bavaria*, capital Zweibrücken, formed of a part of the ancient Palatinate, of the duchy of Zweibrücken, and of the territory of Landau.

3. Part of the duchy of *Hesse Darmstadt*, and territory belonging to the Grand Duke of Oldenburg.

4. *Rhenish Prussia*, capital Cologne, formed of the duchies of Juliers and Cleves, and of the greatest part of the ancient electorates of Mayence, Treves, and Cologne.

5. The duchy of *Luxemburg*, divided between Holland and Belgium; the capital of the Dutch part is Luxemburg; of the Belgian part, Arlon.

The four last parts when united to France, from 1797 to

1814, formed the following departments: 1, Mont Tonnerre, chief town Mayence; 2, Saare, chief town Treves; 3, Rhine and Moselle, chief town Coblenz; 4, Forests, chief town Luxemburg; 5, Roër, chief town Juliers.

3.—BASIN OF THE LOWER RHINE.

Course of the River.—Below Schenck, the Rhine divides into two large branches, which flow through an almost level plain; the river then becomes a mere chaos of slow waters, which spread out in all directions over a country without a slope, and which it has been necessary to enclose by dykes. Of these two arms that on the S.W. is called Waal, that on the N.W. retains the name of Rhine.

The *Waal* washes NYMEGEN, a fortress celebrated by the treaty of 1678; below THIEL, a fortified town, it is connected with the Meuse by several branches, which form large islands; 5 miles farther on it separates from that river, washes BOMMEL, and again connects itself finally with the Meuse before GORCUM, a fortified town, after having formed with this river the fertile island of *Bommel*, which guards all the positions of the Waal, and the key of which is Fort *St. Andrew*.—The Waal and the Meuse are enclosed by very high and thick dykes. The land protected by these dykes is lower than the bed of the rivers, and forms an immense meadow intersected by broad and deep ditches; a rich country, which has always before its eyes the frightful spectacle of enormous masses of water suspended at 26 to 33 feet above its own level. (See below, p. 223, the course of the Meuse.)

The Rhine, after the separation of the Waal, flows N.W., and above ARNHEIM divides into two branches; the eastern branch is called the *Yssel*, it flows N.E., and is only a canal made by Drusus from the Rhine into the river Yssel.—This river rises on the north of Wesel, runs from S.E. to N.W., washes YSSELBURG, and unites with the canal of Drusus at DOESBURG; it then washes ZUTPHEN, an ill-fortified town, where it receives the Berkel; —DEVENTER, a fortified town, leaves on its right ZWOLL, a very strongly fortified town;—KAMPEN, an ancient fortress in half ruinous state, and below this town it falls into the Zuyderzee by several mouths obstructed by sand-banks and shoals.

The Rhine, after the separation of the Yssel branch, washes

ARNHEIM, a town fortified by Coehorn, makes several bends to the S.W., parallel to the Waal, and at DUERSTEDE divides into two branches; the southern one is called the Leek, the northern one retains the name of Rhine.—The *Leek* carries off a considerable body of water, washes VIANEN, SCHOONHOVEN, and NIEUWPOORT, a double bridge-head which secures the passage of the river; it then divides into two branches, which reunite in the Meuse, forming the island of Ysselmond. (See the Meuse.) The space comprised between the Waal and the Leek is called *Betuwe*: it is celebrated in the campaign of Louis XIV., in 1672.

The Rhine, after the separation of the Leek, much diminished in breadth and volume, runs slowly N.W. through the province of UTRECHT, and on reaching that town, celebrated by the treaty of union among the Dutch provinces in 1579 and by the congress of 1713, again divides into two branches. The northern, one called *Vecht*, runs into the Zuyderzee by two branches at Amsterdam and Muiden; the S.W. one, which is a mere stream of muddy water, retains the name of Rhine; it washes LEYDEN, an ancient fortified town, celebrated for the siege of 1574, and used formerly to flow naturally into the sea at KATWIJK; but a violent storm that occurred in 839, heaped up the sand to such an extent about Katwijk, as to close the mouth of the small stream, and absorb it in a pestilential morass; it was not until 1807 that a new channel was formed for it, with a triple set of sluice-gates and stupendous dykes, through which the remains of this great river fall into the German Ocean.

The length of the course of the Rhine is 795 miles; its height above the level of the sea is near the Ober Alp pass about 9,000 feet; at Reichenau, 1,922 feet; at Constanz, 1,305 feet; at Basel, 813 feet; at Kehl, 462 feet; at Cologne, 121 feet. Its navigation commences at Chur, but it is not important until below Schaffhausen; it is everywhere difficult; in the upper basin on account of the falls, in the middle basin on account of the islands, and in the lower basin on account of the want of current.

Tributaries on the Left.—The only tributary of the Lower Rhine is the Meuse, which may be regarded as forming a separate basin, and running directly into the sea.—The *Meuse* (Mosa) rises in the plateau of Langres, and flows north in a narrow valley between the double heights of the Argonne, the

perpendicular sides of which become lost in its banks; it washes NEUF CHATEAU;—DOMREMY, birthplace of Joan of Arc;—COMMERCY, cavalry garrison;—SAMPIGNY, dépôt for the carriages of the military train;—ST. MIHIEL, an ancient stronghold besieged and razed by Louis XIII.;—VERDUN, a stronghold fortified by Vauban, composed of ten bastions, with a citadel which forms an irregular pentagon; birthplace of Chevert; taken by the Prussians in 1792.—After this, the Meuse having become navigable, runs past STENAY, an ancient stronghold, taken and razed by Louis XIV. in 1654;—MOUZON, an ancient fortress, dismantled by Louis XIV.;—SEDAN, formerly chief town of a principality which was annexed to France in 1641, a stronghold defended by a bastioned wall, taken by Louis XIII. in 1641, with a castle, where Turenne was born; infantry and cavalry garrison; birthplace of Macdonald;—DONCHERY, an ancient military post;—MÉZIERES, chief town of the department of Ardennes, a stronghold, with cannon foundries, an infantry garrison, &c. This town is situated on the isthmus of a peninsula formed by the Meuse, which passes through it twice; surrounded by fortifications of considerable strength, and commanded by a good citadel, it was fruitlessly besieged by the Imperialists in 1521, and by the Prussians in 1815. Near it on the left bank is CHARLEVILLE. From Mézières, the Meuse makes numerous windings, and leaves France below GIVET, a stronghold fortified by Vauban, situated on both banks, and which is composed of the two GIVETS, of the citadel of CHARLEMONT, and of MONT D'HAURS.

It then enters Belgium, flows through very narrow ravines formed by perpendicular rocks; washes DINANT, a rich town celebrated in the middle ages, destroyed by Philip the Good in 1466;—NAMUR, a fortified town, at the confluence of the Sambre, taken by the French in 1692, 1740, 1792, and 1794. On its left it is skirted by steep precipices, beyond which the country is covered with sandy heaths; it thus flows by LIÉGE, formerly the capital of a sovereign bishopric which played a great part in the middle ages; taken and destroyed in 1468 by Charles the Bold, now a fortified and manufacturing town (pop., 92,000), with a good citadel, a cannon foundry, a manufactory of small arms, inexhaustible coal mines, &c. To the

north of this town, on the road to Tongres, is Rocoux, battle of 1746, won by the French. It next passes through Herstal, a town celebrated as the residence of the Dukes of Austrasia. The Meuse—under the name of *Maese* or *Maas*, then enters Holland at Maestricht, a very strongly fortified town, taken by the French in 1673, 1748, and 1794; a military position that commands the whole of the Meuse, menaces Belgium, and is the key to Holland. It is skirted on either side by large marshes, washes Maeseyck, celebrated in the campaign of 1672;—Venloo, a fortified town, where commences the canal that connects the Meuse and Escaut, taken by the French in 1694; it then turns westward, washes Grave, a fortified town taken by the French in 1794, forms with the Waal the island of Bommel, joins that river at Gorcum, and below this town divides into two principal branches, embracing a number of islands.—That which flows on the south is the largest, and forms the vast chaos of islands and canals of *Bies Bosch* (reed forest), formerly a fertile and thickly-peopled country, inundated by the Meuse in 1421, whereby seventy-two villages and 100,000 people were destroyed. It here passes by Geertruidenberg, a fortified town, taken by the French in 1793 and 1794, and Willemstad, a fortified town, taken by the French in 1794; it then separates into two branches which embrace the large island of *Over Flakkee*, defended by the works of Goeree. The northern branch passes by Hellevoetsluys, in the island of Voorn, harbour and fortress, ship-building yard of the Dutch navy; the southern branch forms with the eastern Escaut or Schelde the islands of *Tholen* and *Schouwen*.—The body of water on the north is smaller than that on the south, and retains the name of Meuse or Maas It divides at Dordrecht, fortified town and good harbour, into two branches, which surround the island of *Ysselmonde*. The northern branch unites with the Leck above Rotterdam, a very flourishing seaport (pop., 60,000); and their bodies of water become confounded with the sea below Brielle, harbour and fortress, situated on the island of *Voorn*. The southern branch forms with the northern the island of *Beycrland*, and runs between Over Flakkee and Voorn into the sea.—The course of the Meuse is 447 miles long, 223 of which are in France; it is navigable for 374 miles, 124 of which are in France.

TRIBUTARIES OF THE MEUSE.—1. The *Chiers* (on the right) rises in the Ardennes, runs in France from east to west, washes LONGWY, a fortified town, divided into upper and lower town; the former was fortified by Vauban, and has an enceinte of six bastions; it is a very advantageous military position, making as it does a salient angle in the duchy of Luxemburg; taken by the Prussians in 1792, heroically defended against them in 1815. It then flows past MONTMEDY, a fortress composed of two towns; the upper with an enceinte formed of a wall and eight bastions; the lower with a bad enceinte and towers; taken from the Spaniards by the French in 1657, besieged by the allies in 1815. It then washes CARIGNAN or IVOY, formerly a fortress, and ends between Mouzon and Sedan. The Chiers is hemmed in, deep, easily defended; covered by two fortresses, and parallel to the frontier of France; it is of considerable importance; it is not navigable.

2. The *Semoy* (on the right) rises in the same hills as the Chiers, and runs parallel to it but not in France, in a very much enclosed channel; it washes BOUILLON, situated in a deep gully, with an old castle, formerly the capital of a sovereign duchy belonging to the house of Tour d'Auvergne, from 1601 to 1792. It ends in France below Mézières.

3. The *Viroin* (on the left) has two sources: one rises near ROCROY, a fortress, situated on a plateau 1,289 feet high: battle of 1643, won by Condé over the Spaniards; the other runs near MARIENBOURG, a fortress taken from France in 1815, together with all the district in which it is situated, where we also find PHILLIPPEVILLE, a very important fortress taken away from France in 1815; the latter town is situated on the brook Hermeton, 7 miles north of Marienbourg, at the point of intersection of the roads from Namur to Vervins, and from Maubeuge to Givet.—The loss of these two strongholds has made a re-entering angle on the French frontier, which leaves open the country between the Sambre and Meuse, gives an entrance into France by the valley of the Oise, at once the easiest, the nearest to Paris, and the most direct.

4. The *Sambre* (on the left) rises in the Ardennes, near La Capelle, flows from S.W. to N.E., in a low valley fringed with wooded heights, washes LANDRECIES, a fortress besieged by the

Imperialists in 1712, taken by them in 1793, and near which is TROISVILLE, battle of 1794, lost by the French;' it then flows by MAUBEUGE, a fortress situated in advance of the forest of Mormal, and fortified by Vauban; vainly besieged by the allies in 1793 and 1814; near it is WATTIGNIES, battle of 1793, when Jourdan beat the Austrians.—Here the Sambre quits France and runs through Belgian territory, where it washes CHARLEROY, a fortress taken by the French in 1672, 1677, 1693, 1736, 1792, and 1794; on its precipitous left bank it leaves FLEURUS, a place famous for four battles: battle of 1622, won by the Spaniards over the German Protestants; battle of 1690, won by Luxembourg over the Imperialists; battle of 1794, won by Jourdan over the allies; battle of 1815, called also battle of LIGNY, won by Napoleon over the Prussians. The battle of 1794 was preceded by the siege of Charleroy, during which the French crossed the Sambre six times, and were defeated in six battles, the most celebrated of which are those of GRANDRENG, PECHANT, and MARCHIENNE.—The Sambre falls into the Meuse at Namur, after a course of 124 miles; navigable from Landrecies. It is a deep river, but fordable in certain places; it bends so capriciously that it is difficult to make a defensive line of it; its left bank almost always commands its right. It is connected with the Oise and Escaut by canals, and receives but few tributaries; one of them on the right is the *Great Helpe*, which runs by AVESNES, a fortress lying on the second line with reference to Maubeuge, on the road from Mons to Vervins, and which may be avoided by the Philippeville route; taken by the allies in 1814 and 1815.

The country between the Sambre and Meuse is a sort of plateau in advance of the Ardennes, diversified, covered with woods and knolls, furrowed by brooks and deep dells; it is of great importance in a military point of view; we shall have to speak of it farther on.

5. The *Ourthe* (on the right) rises in the Ardennes, flows through a wild country very much cut up by woods and ravines, it washes no remarkable place, and ends at Liege. It receives from the Hohe Venne the *Amblève*, on which the French beat the Austrians in 1794, and the *Vesdre*, which runs by LIMBOURG; these two tributaries are navigable.—The basin of the Ourthe

is of great importance in a march in rear of the Meuse upon the Rhine, on account of the difficulties of the country, which is very diversified and full of ravines; it was rendered famous by Jourdan's campaign in 1794; it now belongs to Belgium.

6. The *Geer* (on the left) washes TONGRES, and ends at Maestricht. Near this last-named town is LAWFELD, battle of 1747, gained by Marshal Saxe over the combined British and Hanoverian army.

7. The *Roer* (on the right) rises in the Eifelgebirge, flows through a basin presenting the same characters and of the same importance as that of the Ourthe, washes DÜREN;—JULIERS or JÜLICH, a fortified town with a citadel;—ALDENHOVEN;—RUREMONDE; and ends near the last-named town. This river from Düren to Aldenhoven and Ruremonde was the scene of the battle of the Roer, where Jourdan beat the Austrians in 1794. It receives a tributary on the left, which rises near AIX LA CHAPELLE or AACHEN, a town founded by Charlemagne and the residence of that emperor, celebrated for the treaties of 1668 and 1748, and for the congress of 1818.—It is not wide, but pretty rapid and fordable in few places; its banks are precipitous, and the right commands the left. Its basin belongs almost entirely to Prussia.

8. The *Dommel* (on the left) rises in the marshes of Peel, flows from south to north through a country perfectly flat and abounding in streams and marshes; it receives a great many tributaries, washes BOIS LE DUC or S'HERTOGENBOSCH, a fortified town with a citadel and two castles; taken by the French in 1794, and ends at Fort *Crèvecœur*.—Its basin belongs almost entirely to Holland.

9. The *Merck* or *Mark* (on the left), a canalized river, which runs from S.E. to N.W., washes BREDA, a very strongly fortified town, defended by a citadel and marshes, taken by the French in 1794, and retaken by the Dutch the same year, and ends below Bies Bosch; it gives off branches, one of which passes by KLUNDERT, a fortified town, taken by the French in 1792.—Its basin belongs to Holland.

Political Divisions.—See p. 236.

4.—SECONDARY BASIN OF THE ESCAUT.

The enclosing heights of this basin consist of: on the west, a ridge of land parallel to the coast, the elevation of which is scarcely perceptible; on the east, the heights prolonged from the Ardennes between the sources of the Oise and Sambre, which at first fringe the left bank of the Sambre as far as Namur, then that of the Meuse as far as Maestricht; thence they turn westwards, and as far as the sea are but low hillocks. Thus the basin is quite open and may be entered from any direction; no position could enable a weak army to protect the country beyond a few days. It is abundantly watered by rivers and canals, thickly peopled, rich, fertile, covered with towns and fortresses. As it approaches the sea, as far as the Scarpe, it is difficult of access, its natural obstacles are numerous; it can be advantageously defended, owing to the marshy streams intercommunicating by means of canals, by means of which the country can be flooded.

The *Escaut*, *Schelde* or *Scheldt* (Scaldis) rises in the small plateau of St. Quentin, near the Somme, flows from south to north, washes CAMBRAI, a stronghold with a good citadel and works, repaired by Vauban; besieged by the Austrians in 1793; the birthplace of Mortier;—BOUCHAIN, a stronghold which along with Cambrai completes the defence of the right bank of the Escaut;—DENAIN, battle of 1712, where Villars beat the allies and saved France. It leaves on the right the camp of *Famars*, where the French fought in 1793 for a fortnight in order to cover Valenciennes—it then washes VALENCIENNES, a very strong fortress with a citadel, an infantry and cavalry garrison, &c., taken by the Austrians in 1793;—CONDÉ, a fortress that closes the Escaut and commands the Haisne, taken by the Austrians in 1793.

It then leaves France, and flowing N.W., washes FONTENOY, battle of 1745, won by the French over the combined British, Dutch, and Austrian army;—TOURNAY, a fortified town, taken by the French in 1617, 1745, 1792, and 1794. This town, the residence of some Frankish kings of the first race, was under the protection of France from 1192 till 1521; conquered by Louis XIV. in 1667, it was given to Austria in 1793, and now belongs to Belgium.—The Escaut then washes PONT-A-CHIN,

battle of 1794, where the French were defeated;—OUDENARDE, battle of 1708, where the French were defeated by the allies under Marlborough and Eugene;—GHENT or GAND, a large town with a population of 102,000, intersected by four rivers, and defended by an indifferent citadel; the birthplace of Charles V. This town, so celebrated during the middle ages for its riches, its manufactures, and its turbulent populace, was taken by the French in 1678, 1708, 1745, 1792, and 1794. Here commence two large canals; the one on the north connects Ghent with the western mouth of the Escaut by SAS VAN GAND and TERNEUSE, the other runs west to BRUGES, a very rich and powerful city in the middle ages, where it branches off to OSTEND, DAMME, L'ECLUSE or SLUYS, &c. This country is all so thickly studded with towns, hamlets, and houses, that Philip II. said of it—"It is all one town." From Ghent the river runs eastwards, washes DENDERMONDE, and reaches ANTWERP, where it is 1,640 feet wide.—This town, one of the most strongly fortified and most trading towns in Europe, with a population of 108,000, has an immense harbour, magnificent ship-building yards, an arsenal, &c. It is defended on the left bank by the *Tête de Flandre*, and on the right bank by the *Old Citadel*, south of the town, erected by the Spaniards and strengthened by Carnot, who surrendered it to the British in 1814. In 1832 it was taken from the Dutch by a French force. New fortifications, on the German principle, were erected by General Brialmont in 1862-65, consisting of the New Citadel, commanding the river on the north of the town, and connected with the Old Citadel by a semicircular enceinte; also an outer circle of detached forts communicating by a military road, at a sufficient distance from the town to protect it from bombardment. It was closed as a seaport by the treaty of Westphalia on the demand of the Dutch, and thus it was that Amsterdam attained a prosperity which nature seemed to have denied it; it was again thrown open to commerce during the French rule from 1792 to 1814, and Napoleon caused immense works to be constructed there. He said of this town, whose harbour can hold 1,000 ships, and whence a fleet could reach London in a few hours—"It is a loaded pistol pointed at England's heart." Accordingly, during the invasion of 1814, he sacrificed a portion of his troops in

order to preserve Antwerp, which being defended by Carnot, repulsed the allies for four months. Below Antwerp the Escaut turns to the N.W. by a large channel skirted by dykes and studded with fortresses; on the left are forts STE. MARIE and PERLE; on the right, forts ST. PHILIPPE and KRUISCHANS; thence it flows between the two large forts of LIEFKENSHOEK on the left, and LILLO on the right, and enters Holland a little above Fort BATH.—There it divides into two large branches, which embrace the large delta of the islands of Zealand, composed of three principal islands—*South Beveland*, *North Beveland*, and *Walcheren*. The last named defends the two principal mouths of the Escaut (called Schelde in Holland); on the north by VEERE, in the centre by MIDDELBURG, and on the south by FLUSHING (Vlissingen), a very strongly fortified town, with a large and safe harbour, dockyards, arsenals, docks, &c.; taken by the English in 1809.—The east Schelde runs past BERGEN OP ZOOM, a fortress of great strength as well by its works as by the marshes surrounding it, the masterpiece of Coehorn, taken by the French in 1747 and 1795, surprised in 1814 by the British, who were disgracefully repulsed by the French. It flows between the islands of South Beveland and Tholen; unites with the southern branch of the Meuse in order to form the islands of *Tholen* and *Schouwen*, runs between South Beveland and Tholen, North Beveland and Schouwen, and ends below ZIERIKZEE, a fortified town on the island of Schouwen, by a mouth 6 miles wide.—The west Schelde forms by numerous channels the *Assel* and *Cassand* Islands, which are fortified and serve as the boundary between Holland and Belgium; it ends between Flushing and Sluys by a mouth 8 miles wide.

The total length of the Escaut is 211 miles, 43 of which are in France; it is navigable from Cambrai, but it only acquires its importance in the Belgian territory, and especially from Antwerp downwards; its two enormous mouths, lying opposite that of the Thames at the entrance to the German Ocean, are unequalled for safety and depth; their possessor is master of that sea, he may penetrate into the continent and he can protect the products of Germany and France. It is connected by means of the St. Quentin canal with the Somme and the Oise, by the Sensée, Deule, and Bassée canals with the Lys, by the Antwerp canal

with the Meuse, &c. Its basin, if not the richest, is the best cultivated in all France: it contains her most prolific coal-mines.

Tributaries of the Escaut.—1. The *Sensée* (on the left) is a small canalized river, which ends at Bouchain and unites the lower Scarpe with the lower Escaut by a canal.

2. The *Ronelle* (on the right) flows near QUESNOY, a town fortified by Vauban, taken by the Austrians in 1793, and the only fortress that covers the space between the Escaut and Sambre.

3. The *Haisne* (on the right) runs near MONS, a very strongly-fortified Belgian town, taken by the French in 1691, 1746, 1792, and 1794; near this town lies ST. DENIS, battle of 1678, won by the French over William III.; JEMMAPES, battle of 1792, where Dumouriez beat the Austrians. It ends at Condé, and receives a stream, which flows by MALPLAQUET, battle of 1709, where Villars was beaten by Marlborough and Eugene.

4. The *Scarpe* (on the left) rises in the Artois hills, washes ARRAS, a fortress planned by Vauban, with a fine citadel, the ancient capital of Artois, chief town of the department of Pas de Calais, engineering and military schools, engineer and cavalry garrison, taken by the French in 1667;—DOUAI, a fortress, the chief work of which is the Scarpe fort, with an artillery school and garrison, an arsenal, a cannon foundry, &c., taken by the French in 1667;—MARCHIENNES, situated on a canal that skirts the Scarpe, and celebrated in the campaign of 1712. It ends below ST. AMAND, and is connected with the Escaut by the Sensee canal, which runs from Douai to Bouchain. Its valley is very marshy; its course is 62 miles long, and it is navigable from Arras by means of locks.

5. The *Lys* (on the left) rises in the Artois hills, washes THEROUANNE, an ancient stronghold ruined by Charles V. in 1553; and near which is GUINEGATE, battle of 1479, between the French and the Flemish; it is navigable, by means of locks, to AIRE, a fortress defended by ten bastions and the regular fort of ST. FRANÇOIS; taken by the French in 1641 and 1676, and by the allies in 1710; it washes ST. VENANT, a town indifferently fortified;—ARMENTIERES, where the Lys serves as the boundary of France. It enters Belgium at MENIN, a dismantled fortress, taken by the French in 1658, 1667, 1744, 1792, and 1794, runs

parallel to the Escaut, washing COURTRAY, an ancient stronghold, taken by the French in all the Belgian wars; battle of 1302, when the French were defeated by the Flemish; battle of 1794, when the French beat the Austrians. It ends at Ghent and receives: 1, the *Lawe*, which flows by BETHUNE, a fortress situated on a height, with a castle isolated from the town;—2, the *Deule*, which rises above LENS, victory of Condé over the Spaniards in 1648; it is connected with the Scarpe by the Upper Deule canal, and with the Lys by the Bassée canal, and it runs in a canalized state to LILLE, a first-class stronghold, chief town of the department of Nord, and of the 3rd military division; pop., 132,000; ancient capital of French Flanders, taken by Louis XIV. in 1667, by the allies under Marlborough in 1708, vainly besieged by the Austrians in 1792.—The ramparts of this town, one of the strongest in Europe, form an ellipse, the greater axis of which is 7,872 feet, the lesser 3,936 feet; its enceinte is pierced by seven gates, and is composed of nine fortification fronts; two on the west, covered by the Deule canal and defended by three bastions; three on the north, composed of seven bastions crowned with cavaliers, hornworks, lunettes, &c.; two on the east, covered by three bastions and fort St. Sauveur; two on the south, covered by four bastions and the citadel, which is separated from the town by the Deule canal, by which the country may be flooded to a distance of one mile from the works.* The citadel is Vauban's masterpiece; its enceinte is a regular pentagon, where the works are accumulated and disposed in such a manner that it may be regarded as impregnable. Lille is the centre of the defence of all the northern frontier of France; lying in a plain it protects chiefly the low, wet country, covered with canals and ditches, which spreads out between the Escaut and Lys. The Deule receives the *Marcq*, on which lie: MONS EN PUELLE, battle of 1304, won by Philip IV. over the Flemish; BOUVINES, battle of 1214, won by Philip Augustus. 3. The *Mandels* washes HOOGLEDE, battle of 1794, won by the French, and ROSEBECQUE, battle of 1382, won by Charles VI. over the Flemish.

* Part of this enceinte has been removed to enlarge the town by annexing the neighbouring communes of Moulins and Fives. The enceinte has been rebuilt beyond these communes.

6. The *Dender* (on the right) washes ATH, a dismantled fortress, and ends at Dendermonde.

7. The *Rupel* (on the right) ends at ROPELMONDE, and is formed of three rivers, which join below Mechlin; the Senne on the south, the Dyle on the south-east, the Neethe on the north-east.

The *Senne* has two sources: its southern source rises near SENEF, battle of 1674, won by Condé over William of Orange; the south-western source rises near STEENKERQUE, battle of 1692 (called also battle of Enghien), won by Luxembourg over William of Orange. It washes BRUSSELS, capital of Belgium; population, 164,000; taken by the French in 1678, 1745, 1792, and 1794.

The *Dyle* rises in the hills of the Sambre, not far from the fields of Ligny and Fleurus, flows from south to north, washes WAVRE, where Grouchy beat the Prussians in 1815;—LOUVAIN, battles of 1793 and 1831; it turns westwards to the end of its course, and washes MECHLIN or MALINES, the centre of the Belgian railways. Between Mechlin and Louvain, it receives the *Demer*. —This latter stream rises in the hills of the Meuse, not far from the battle-field of LAWFELD; it runs from east to west without passing any remarkable town, and receives the *Geete*, which is composed of two parallel streams; the *Great Geete* runs by TIRLEMONT; the *Little Geete* runs by RAMILLIES, battle of 1706, where the French were beaten by the allies under Marlborough; NEERWINDEN, battles of 1693, won by Luxembourg over William of Orange, and 1793, won by the Austrians over the French.

The basin of the Dyle contains the road from Charleroy to Brussels, which runs parallel to the Dyle and Senne, and on which are situated QUATRE BRAS, the point of junction of the roads from Charleroy and Namur to Brussels, where Ney defeated the English in 1815; MONT ST. JEAN, where the Charleroy and Nevilles roads cross, from the ravines and plateaus of which the *Lasnes*, a tributary of the Dyle, rises; WATERLOO, in front of the forest of *Soignes*, 9 miles broad, intersected with ponds, and covering Brussels. Here was fought the battle of June 18th, 1815, when the French under Napoleon were defeated by the British and Prussians under Wellington and Blücher.

The *Neethe* is formed by two rivers of the same name, which unite at LIER.

If we examine the course of the Escaut from its source to Rupelmonde on the one hand, and the course of the Sambre to its confluence, and from this point the course of the Meuse to Maestricht on the other hand, we shall find that these two great water lines are parallel and not very distant from one another as long as they are in France, whereas, when they leave France, they diverge continually and describe two large segments of a circle, embracing betwixt them an immense tract of country, measuring from east to west 70 to 90 miles, and from north to south 50 miles. This is the central and most important part of Belgium, comprising the provinces of Hainault, Brabant, Namur, and Liege; the strategic limit of which may be said to be the great waterline running from Maestricht to Ghent, which is formed by the Demer, Dyle, Rupel, and Escaut, rivers which successively fall into one another.

This tract of country, almost completely flat and unprotected in the north, is in the south pretty strongly diversified, intersected by gently undulating low hills, the general run of which is from south to north, ravines of no great depth, small defiles, clumps of trees; finally, by a score of streams or brooks, which fall into the great waterline already mentioned; those streams are parallel to one another, and also nearly parallel to the Escaut and Meuse, thereby opening natural and easy modes of access from France into Belgium; the principal of these are: the Dender, the Senne, the Dyle, the two Geetes, &c. The soil is clayey, hard and dry in summer, slushy and muddy in winter; it is studded with villages, hamlets, farms, plantations of trees so close together, that in some parts the country looks like a forest partially cleared. The roughest part, that where ravines most abound, is about the sources of the Senne, the Dyle, and their tributaries; the most wooded part is between these two rivers, where lies the forest of Soignes. Ghent and Maestricht mark the two northern extremities of this district, Tournay and Namur the two southern extremities; Brussels is about the centre.

This tract of country, which presents but a few picturesque features, and is a constant succession of meadow land and cornfields, is very fertile, highly cultivated, rich, traversed in every direction by excellent roads and railways; hence it offers the greatest facilities for an army marching and subsisting. It is

the necessary theatre of French invasion, it is the tilting field apparently prepared by nature for France and her enemies to settle their quarrels; in short, it is a region of such a character that it seems to invite war and to have been created especially for battles. Every foot of the country has been watered with French blood; one-half of the military history of France has been transacted there; there are to be found all those glorious names which stir a Frenchman's soul, victories or defeats which compose his heroic wreaths: Fontenoy, Jemmapes, Steenkerque, Senef, Fleurus, Neerwinde, Rocoux, Lawfeld, Malplaquet, Oudenarde, Ramillies, Waterloo.

COAST STREAMS, COAST, AND HARBOURS BETWEEN CAPE GRISNEZ AND THE MOUTHS OF THE MEUSE.

1. The *Aa* rises in the Artois hills, washes ESQUERDES, the Government powder manufactory;—ST. OMER, a stronghold defended by a regular enceinte, marshes, four detached forts, and several redoubts;—GRAVELINES, a small commercial port, well fortified, with a detached work called Fort *Philip;* taken by the English in 1383, by the French in 1644 and 1650; battle of 1558, in which the French were defeated. Below this town the Aa falls into the sea after a course of 56 miles in length, navigable from St. Omer. It is a river of importance in a commercial point of view, and even for the defence of the country. Some remarkable canals are connected with it.

1. The *Neuf Fossé* canal (on the right), which runs from St. Omer to the Lys at Aire; it is a military defence dating from the eleventh century, it was added to by Vauban, and completed in 1774; it is 10 miles long, 46 feet deep, and forms with the Aa behind the French frontier a formidable water line, resting as it does on three fortresses: Gravelines, St. Omer, and Aire;—2, the *Calais* canal (on the left), which runs from St. Omer to Calais, a length of 18 miles;—3, the *Colme* canal (on the right), which runs from Watten to Furnes by Bergues.—BERGUES is a stronghold, fortified by Vauban; by its sluices the marshy plain around it can be flooded; it has a detached work called fort *Français*, situated on the canal from Bergues to Dunkirk, and which being in connection with fort *Louis*,

includes those two towns in one system of defence.—FURNES is an ancient Belgian fortress, frequently taken by the French, and celebrated by the battle of 1297, when the French beat the Flemish.—On a branch of the Colme and near the frontier is HONDSCHOOTE, a town formerly fortified and celebrated by the battle of 1793, when the French beat the British;—4, the *Bourbourg* canal (on the right), which runs from Bourbourg to Dunkirk.

2. The *Yser* enters Belgium near Rousbrugge, joins the *Yperlé*, which runs by YPRES, a stronghold often taken by the French, and ends at Nieuport.

The country these two rivers flow through, and generally speaking, all that between Cape Grisnez and the mouths of the Schelde, is low, flat, damp, formed of moss and alluvial deposit, the level of which is above that of low tide, but below that of high tide; it has not long been reclaimed from the sea by the indefatigable and persevering industry of the inhabitants. This is the country of the *Watteringhes*, a network of land dried by means of canals and dykes, protected from the tides by natural sandhills and artificial embankments, and where the waters of the interior flow into the sea by sluices which open at low tide and close at high tide. The lowest part of the country is called *Moeres*, enormous and deep morasses, which are the remains of ancient invasions of the sea, the largest of which is intersected by the boundary of France and Belgium. They are now dried and wonderfully fertile.

The coast between the mouths of the Schelde and that of the Rhine is the lowest, the most thickly studded with islands, shoals, and marshes, in fact, the strangest coast in Europe. It has been entirely reclaimed from the sea, and is only protected from its invasions by gigantic dykes.

The seaports are numerous:—1. CALAIS, a fortified town with a good citadel, a bastioned enceinte, many detached works, the most important of which is fort *Nieulay;* its harbour, formerly very flourishing, is partly silted up with sand, and can only admit vessels of 500 tons burden. Taken by the English in 1347, by the Duke of Guise in 1558, by the Spaniards in 1595.

2. GRAVELINES, already described, at the mouth of the Aa.

3. MARDICK, a village, famous for the harbour constructed

there by Louis XIV. after the destruction of that of Dunkirk. The canal made at that time went by a broken line of 4 miles from Mardick to the roadstead of Dunkirk, and could admit ships of 70 guns. The Regent caused it to be demolished in 1716, and now the harbour of Mardick is a mere gap on the shore.

4. DUNKIRK, a fortress and commercial port, the most important in France on the North Sea. This harbour, which played such a great part in the time of Louis XIV., is silted up with sand, like all the others on this coast, and notwithstanding the immense labour that has been expended on it, is only capable of admitting corvettes. Still its roadstead, 9 miles in length between the coast and the sandbank called the *Brak*, is the only one before we reach Cherbourg, where ships of war can take refuge. Dunkirk is regularly fortified, and communicates with fort Louis, which connects it by means of fort Français with Bergues. Taken by Condé in 1646, and by Turenne in 1658, after the battle of the *Dunes*, in which the Spaniards were defeated; besieged by the British in 1793; the siege was raised by the battle of Hondschoote.

5. NIEUPORT, a bad harbour and dismantled town at the mouth of the Yser; taken by the French in 1745 and 1792; battle of 1600, in which Maurice of Nassau defeated the Spaniards.—Belgium.

6. OSTEND, a great trading port, but much blocked up with sand, a fortified town, celebrated by the siege from 1601 to 1604; taken by the French in 1745 and 1794.—Belgium.

7. ECLUSE (Sluys), a fine harbour and small fortified town on a sea-canal, defended in front by fort Isabelle; naval battle of 1340, in which the English defeated the French.—Holland.

Political Divisions.—The basin of the Lower Rhine with the secondary basin of the Escaut comprises politically: 1, the following departments of France: *Meuse*, which forms a part of the 5th military division; *Ardennes*, forming part of the 4th; *Nord* and *Pas-de-Calais*, forming part of the 3rd.

2. The kingdom of *Belgium*, capital Brussels, which includes the following provinces: 1, *East Flanders*, capital Ghent; 2, *West Flanders*, Bruges; 3, *Hainault*, Mons; 4, *Namur*, Namur; 5, *Liege*, Liege; 6, *Antwerp*, Antwerp; 7, *Brabant*, Brussels; 8, *Limbourg*, Tongres.—This kingdom is completely French, by

position, race, manners, religion, and language. Flanders formed part of feudal France, and is the only state that was not completely united to monarchical France; Brabant, Hainault, Limbourg, Namur, Antwerp, &c., were for many centuries under the rule of French princes, principally under that of the dukes of Burgundy of the house of Valois. All these countries were united to republican and imperial France from 1792 to 1814, and formed the following departments: 1, Lys, chief town Bruges; 2, Jemmapes, chief town Mons; 3, Escaut, chief town Ghent; 4, Two Nethes, chief town Antwerp; 5, Dyle, chief town Brussels; 6, Ourthe, chief town Liege; 7, Sambre and Meuse, chief town Namur. Belgium, united to Holland in 1814, formed with it the kingdom of the Netherlands, placed as the vanguard of the Holy Alliance against France. The revolution of 1830 separated the two countries, and Belgium constituted itself an independent state, which has been declared neutral by the great powers of Europe. Its government is a representative monarchy.

3. Part of the kingdom of the Netherlands, which under the French Empire formed the following departments: 1, Mouths of the Escaut, chief town Middelburg; 2, Lower Meuse, chief town Maestricht; 3, Mouths of the Meuse, chief town The Hague; 4, Mouths of the Rhine, chief town Bois le Duc (Hertogenbosch). (See Germany, Rhine basin, right bank.)

RECAPITULATION OF THE FRONTIER OF FRANCE IN THE BASINS OF THE RHINE AND ESCAUT.

The boundary of France in the basins of the Escaut and Rhine is marked by a conventional line running from the coast of the North Sea, between Dunkirk and Furnes, crossing the Great Moer, the Colme canal near Hondschoote, the Yser to the south of Rousbrugge, passing between Cassel and Poperinghe, Bailleul and Warneton, and reaching the Lys at Armentières.

Thence it is indicated by the Lys as far as Menin; it then passes to the north of Turcoing and Roubaix, runs parallel to the left bank of the Escaut, crosses this river at the confluence of the Scarpe, and then runs parallel with it on its right bank as far as north of Condé, near the confluence of the Haisne.

Thence it passes between Quievrain and Malplaquet, and reaches the Sambre to the north of Maubeuge.

Thence it runs in a tortuous course from north to south to near the source of the Oise, then from west to east as far as Fumay; and then it follows the Meuse from south to north to the north of Charlemont and Givet.

Thence it runs from Givet to the Semoy, parallel to the Meuse, crosses the Semoy not far from its confluence, runs parallel to this river till it reaches the Chiers, skirts the Chiers from Montmedy to Longwy, crosses it not far from its source, crosses also the Alzette, and finally the Moselle, to the north of Sierck.

Thence it follows a tortuous line parallel to the Sarre, to near Forbach, passes to the north of Sarreguemines, follows the Blies, passes to the south of Hornbach, and reaches the Vosges between Zweibrücken and Bitche.

It then crosses the Sulz, reaches the Lauter near Weissembourg, and follows it to its confluence.

Finally, it follows the Rhine from the confluence of the Lauter to Hüningen.

Thus it is evident that the French frontier in the basins of the Escaut and Rhine is, except at the Rhine itself, a very artificial and defective frontier, because it offers no natural obstacles, because as the rivers run perpendicularly to the boundary line, they open up natural roads by which the country may be penetrated; and because these rivers are only separated from one another, almost throughout their whole course, by lines of low hills or insignificant heights. Hence it was necessary to create this frontier of every variety of ground, and to protect it entirely by artificial defences.

It was on this task that the genius of Vauban was exerted with such brilliant success. His plan was very simple; to regard the frontier line between the sea and the Rhine as divided into eight principal sections by the seven lines of rivers and mountain chains which intersect it (Lys, Escaut, Sambre, Meuse, Moselle, Vosges, Rhine, in the order in which we are about to describe the divisions of the frontier); to arm each of these lines which form the flanks of each section, with two or three fortresses; to provide the intervals or gaps betwixt these lines with one or more defences generally placed on the tri-

butaries of the lines themselves; finally, to form of all those fortified points and of the natural accidents which support them eight faces of a vast citadel of which Paris may be considered the interior retrenchment.—We proceed to give a summary of each of these sections.

1. The section *from the sea to the Lys* has the following defences: on the sea, *Dunkirk*, *Gravelines*, *Calais;* on the Lys, *St. Venant* and *Aire;* between the sea and the Lys, *Bergues* and *St. Omer*.—This is a good frontier not only on account of the seven fortresses which defend it, but also on account of the nature of the country, which is intersected in every direction by canals, among which the most remarkable is the water line which runs from Gravelines to Aire, parallel to the frontier. Since this frontier has been regularly established, the enemies of France have never attempted to pierce it except in 1793, when they were forced to retreat from it by the battle of Hondschoote.

The neighbouring country is not so well defended: Dunkirk is opposed by *Furnes*, Gravelines and Calais by *Nieuport* and *Ostend;* *Ypres* opposes St. Omer and Aire; finally, on the Lys we find *Menin*, *Courtray*, and *Ghent*. These seven fortresses are, with the exception of Ypres and Ghent, dismantled or scarcely capable of defence. The operations that can be undertaken by the French in this district are for the most part of a secondary character, the principal invading army which operates by the valley of the Escaut has to be supported by a corps invading maritime Flanders: this was demonstrated by the campaigns of 1667, 1743, 1792, and 1794.

2. The section *from the Lys to the Escaut* has the following defences: on the Lys, *St. Venant* and *Aire;* on the Escaut, *Condé*, *Valenciennes*, *Bouchain*, and *Cambrai;* between the Lys and the Escaut, Lille and Bethune on the tributaries of the Lys, *Douai* and *Arras* on a tributary of the Escaut.* Besides these ten fortresses the country is defended by the rivers and canals, and

* In addition to these strongholds, there were formerly the following towns, which are now dismantled: *Bassée*, on a canal connecting the Lys with the Deule; *Orchies*, on a tributary of the Scarpe; *Lens*, on the Souchet, one of the sources of the Deule; *Marchiennes*, on the Scarpe; *Bapaume*, recently dismantled.

mainly by the great water-line which runs from Warneton on the Lys to Bouchain on the Escaut: it is formed by the canalized Deule, the canal from the Deule to the Scarpe, the Scarpe, the canal from the Scarpe to the Sensée, and the Sensée.—It is a very good frontier. It was never invaded except in the campaigns of 1708 and 1711, when the allies took in succession Lille, Douai, Bethune, Aire, St. Venant, and Bouchain; but here their success ended, and they were forced to seek a way to Paris in the next section, in which attempt they failed. In 1792, the Austrians made an attack on Lille, which did not succeed.

The surrounding country is pretty well defended by the confluence of the Lys and Escaut; it is feebly defended by the fortresses of *Menin* and *Courtray* on the Lys, *Tournay* and *Oudenarde* on the Escaut; but the large town of *Ghent* threatens it from a point of vantage. The French never made any remarkable operations here except in the campaign of 1794.

In rear of the two sections of frontier just described, is a second zone of defence, which protected France in former times when she had neither Artois nor Flanders. It is formed by the parallel basins of the Liane, Canche, Authie, and Somme, and is defended by the fortresses of *Boulogne* on the Liane, *Hesdin* and *Montreuil* on the Canche, *Doulens* on the Authie, *Abbeville*, *Amiens* and *Peronne* on the Somme. Since the treaties of the Pyrenees and of Aix-la-Chapelle, this district has not been the theatre of any military operation; it is completely turned by the country between the Escaut and Meuse, which leads directly on Paris, and it was of no use in the campaigns of 1710 and 1814.

3. The section *from the Escaut to the Sambre*, narrower than the two preceding, is like a gap, comprised at first between the Escaut and the Sambre, and afterwards between the Somme and the Oise; its defences are the following: on the Escaut, *Condé*, *Valenciennes*, *Bouchain*, *Cambrai*; on the Sambre, *Maubeuge* and *Landrecies*; between the Escaut and Sambre, *Le Quesnoy*.

It forms but an indifferent frontier, the interval of which is not adequately guarded by Le Quesnoy, and it is all the more dangerous from the Oise opening a natural route to Paris in its rear. Accordingly her enemies have several times endeavoured to invade France in this direction: 1. In the war of the Spanish succession, when, after taking Bouchain and Le Quesnoy, they

laid siege to Landrecies, intending after taking this stronghold to march on Paris; but they were prevented doing so by the battle of Denain. 2. In the campaign of 1793, when the Austrians took Condé, Valenciennes, Le Quesnoy, and Landrecies, and besieged Maubeuge, the victory of Wattignies delivered this town and arrested the invasion. 3. In 1814, when the allies sent an army between the Escaut and Sambre in order to take the fortresses and reopen their communications with Germany: this army failed disgracefully before Maubeuge.

The neighbouring country is that tract lying between the Escaut, the Meuse, and the Rupel-Dyl-Demer, which is, as we have seen, so remarkable in a military point of view. We have mentioned how it was defended, and how, in spite of its fortresses, the French have constantly invaded it, and almost always with success; the most remarkable of these invasions were: in the war of 1688, distinguished by the battles of Fleurus, Steenkerque, and Neerwinde; in the war of 1740, distinguished by the battles of Fontenoy, Rocoux, and Lawfeld; in the campaign of 1792, distinguished by the battle of Jemappes; in the campaign of 1794, distinguished by the battle of Fleurus; finally, in the campaign of 1815, distinguished by the battle of Waterloo. So much is this country the lists where the destinies of France must be determined by war, that it was here Napoleon attempted to reconquer his supremacy over the combined forces of Europe.

4. The section *from the Sambre to the Meüse* is defended: on the Sambre by *Maubeuge* and *Landrecies;* on the Meuse by *Givet, Mézières,* and *Sedan;* between the Sambre and Meuse by *Avesnes* and *Rocroy.* It is a bad frontier; before 1792 the boundary went straight from Maubeuge to Givet, giving to France all the district wherein lie Beaumont and Chimay, Philippeville and Marienburg, whereby the country between the Sambre the Meuse and the frontier formed a triangle, of which the frontier was the base and Namur the apex. This base was excellent when it had Maubeuge and Givet at the extremities, Philippeville and Marienburg in the centre, and Landrecies, Avesnes, Rocroy, and Mézières behind it; it allowed the French to strike the Sambre directly about Charleroy, and to make this river the base of their operations in Belgium. The re-entering angle which was taken from France

in 1815, and which throws back the boundary from Maubeuge to the sources of the Oise, and from the sources of the Oise to Givet, deprived France of the fortresses of Philippeville and Marienburg, which Louis XIV. fortified in order to cover the space between the Sambre and Meuse, leaves Maubeuge and Givet without communications, renders Avesnes and Rocroy useless, in short, allows an invading force to penetrate without hindrance into the valley of the Oise, and to march by the nearest way on Paris.

In order to make up for the loss of Philippeville and Marienburg, a second frontier zone has been constructed in the rear, and is comprised between the Oise, the Aisne, the Ardennes canal, and the Meuse; it is defended on the Oise by *Guise* and *Lafère;* on the Aisne by *Soissons;* between the Oise and the Aisne by *Laon;* finally, on the Meuse by *Mézières* and *Sedan.*

All attacks made on France by this section of the frontier failed until 1814, when the allies marched on Paris by Avesnes, Laon, and Soissons, which had no garrisons and were not fortified. As regards the attacks made by the French on the neighbouring country, the same may be said of them as of those by the preceding section, the Sambre, which crosses the country transversely between the Escaut and Meuse, having always served as the base of their offensive operations in Belgium.

5. The section *from the Meuse to the Moselle* is defended: on the Meuse by *Givet, Mézières, Sedan,* and *Verdun;* on the Mozelle by *Thionville* and *Metz;* between the Meuse and Moselle by *Montmédy* and *Longwi.** This is a tolerably good frontier; it is well defended on its flanks, but in the interior, albeit the country is much broken up by the Ardennes, with their long plateaus full of ravines, their woods and morasses, Montmedy and Longwi are not sufficiently strong fortresses. Luxembourg is required for the defence of this frontier, and this is why Louis XIV. took possession of and fortified it. So in 1792, this section of frontier being regarded as the weakest, it was by it the Prussians advanced; they took Longwi and Verdun, and were only stopped in Champagne by the battle of Valmy.

* Besides these there were formerly: on the Meuse, *Stenay, Mouzon, Donchery, St. Mihiel;* on the Moselle, *Sierk;* between the Meuse and Moselle, *Carignan* and *Rodemack.*

The neighbouring country is not so well defended by Luxemburg as by its difficult, wild, and barren character; hence the French never penetrated it except by taking it in reverse by the basins of the Ourthe and Roer. This is what was done in the campaign of 1794.

6. The section *from the Moselle to the Vosges* is defended on the Moselle by *Thionville*, *Metz*, and *Toul*; on the Vosges by *Bitche* and *Phalsbourg*; between the Vosges and the Moselle by *Marsal*. It is a defective frontier; Marsal is inadequate to the defence of an interval so wide and open between the Moselle and Vosges, which is moreover crossed by the important river Sarre, and which, if Metz be turned, leads to the Marne and Paris. Accordingly this interval was formerly defended by the fortress of *Sarrelouis*, fortified by Vauban, and which the allies took from the French in 1815, the effect of which is that the Vosges may be turned, Metz eluded by way of Nancy, and the basin of the Marne reached without any obstacles except *Marsal*, *Toul*, and *Vitry*. Thus the great stronghold of Metz is diminished in value by means of Luxemburg and Sarrelouis, which, placed on either hand of the Moselle, look towards and threaten it.

The only attempts at an invasion of France made on this side were those of the campaign of 1705, when Villars disconcerted all Marlborough's efforts, and in the campaign of 1793, when Pichegru and Hoche stopped the advance of the allies.

As regards the neighbouring country, it is only defended in front by *Luxemburg* and *Sarrelouis*, but in the rear it has the great fortresses of *Coblenz* and *Mentz*. As this country in former times belonged to the ecclesiastical electors, usually allies of France, it was constantly open to the French, who never made a forcible invasion of it except in 1792 and 1793.

7. The section *from the Vosges to the Rhine* is defended: in the Vosges by *Bitche* and *Phalsbourg*, *Petite Pierre* and *Lichtenberg*; on the Rhine by *Lauterburg* and *Strasburg*; between the Vosges and the Rhine by *Weissemburg* and *Haguenau*. It is a defective frontier. *Bitche*, *Phalsbourg*, &c., defend the passes of the Vosges very well, but the Vosges themselves can be turned by Mentz and Sarrelouis; Lauterburg, and especially Strasburg, defend the Rhine; but the Rhine itself can be turned by Mentz,

Gemersheim, and Landau; finally, Weissemburg and Haguenau are inadequate to the defence of the interval between the Vosges and the Rhine; the fortress of *Landau*, fortified by Vauban, guarded this interval effectually; but in 1815 the allies deprived the French of it, in order to render their fine Rhine frontier useless, and to open up a direct road from Mentz to Strasburg.

The military operations that have taken place in this section of the frontier are those of 1701 to 1703, of 1793 and 1794; Landau was invariably their pivot, both for the enemy to penetrate into France and for the French to repulse the enemy.

8. The section formed by *the Rhine* is defended: on or near the Rhine by *New Breisach, Strasburg*, and *Lauterburg;* between the Vosges and the Rhine by *Haguenau* and *Schelestadt;* in the Vosges by *Bitche, Phalsbourg*, &c.

This section, partly comprised in the preceding one, forms naturally an excellent frontier, defended in front by a large river, farther on by the tributaries of this river, in the rear by a chain of mountains. But all these advantages have been nullified by dismantling Hüningen and depriving France of Landau, in consequence of which the line of the Rhine may be turned, the importance of the strongholds of Alsace is nullified or diminished, and the Vosges rendered useless. The French have done nothing to supply the place of Landau, but they have attempted to remedy the demolition of Hüningen by the construction of the fortress and entrenched camp of Befort, which, as we have before mentioned, chiefly covers the gap of the pass of Valdieu, the entrance to the basin of the Upper Saone, and the road from Langres to Paris, and which ought also to defend indirectly the entrance to Alsace. (See Basin of the Rhone, p. 170.)

The complement of all the frontier we have just described is *Paris*, the fortification of which is mainly intended to deprive the enemy of all hope of taking the capital of France by a *coup de main*, and thereby to restore to the frontier of Louis XIV. and Vauban its importance and its renown, of which it was wrongly deprived by the events of 1814 and 1815. (See pp. 157, 168.)

SUPERFICIAL EXTENT.	POPULATION.	ARMY.	FLEET.	REVENUE.	DEBT.	COLONIES.
FRENCH EMPIRE.						
209,426 square miles.	37,472,732 — EXTERNAL POSSESSIONS. 5,861,716	393,758 men. 79,135 horses.	Ships of all classes—506, carrying 7,683 guns, and with 108,583 horse-power.	£87,602,309	£348,000,000	AMERICA.—St. Pierre and Miquelon, Martinique, Guadaloupe, Guiana. AFRICA.—Algeria, Senegal, Bourbon. ASIA.—Pondichery, Chandernagor, Saigon, and the Annamite Cambodia. OCEANIA.—The Marquesas, Tahiti, New Caledonia.
HELVETIC CONFEDERATION.						
15,726 square miles.	2,510,000	85,470 men. RESERVE 47,944 men. LANDWEHR 64,549 men.	..	£760,000	..	..
KINGDOM OF BELGIUM.						
11,373 sq. m.	4,940,570	86,272 men. 7,099 horse.	..	£6,633,050	£31,917,310	..

Transrhenine Territories of Bavaria. (See GERMANY.)

Transrhenine Territories of Prussia. (See GERMANY.)

Other Small German States. (See GERMANY.)

Kingdom of the Netherlands. (See GERMANY.)

CHAPTER IV.

CENTRAL OR GERMAN REGION.

§ I.—GENERAL IDEAS.

UNDER the name *Central* or *German Region* we include the countries situated on both watersheds of the European water-parting, from Mont Maloia to Mont Sloiczek. The northern watershed contains the basins of the Rhine (right bank), Weser, and Elbe, which run into the German Ocean; of the Oder and Vistula, which run into the Baltic Sea. The southern watershed, if we add to the great water-parting the appendix of the Carpathians, forms the left bank of the basin of the Danube. We shall include the right bank also which belongs to the northern watershed of the Italian and Hellenic Alps.

This large region, the greater part of which is occupied by Germany, may thus be considered as being bounded: on the west by the course of the Rhine; on the south by the Italian and Hellenic Alps; on the east by the Black Sea, the Dniester, and the Vistula; on the north by the Baltic Sea and the German Ocean. Length of the diagonal drawn from the sources of the Rhine to the mouth of the Vistula 620 miles; length of the diagonal drawn from the mouths of the Rhine to Cape Emineh in the Black Sea, 1,180 miles. Length of the sea-coast, 1,120 miles; length of the Black Sea coast, 250 miles.

A country so vast, whose only boundaries on the S.W. and N.E. are two great rivers; which is spread out and prolonged on the north towards two enclosed seas, separated by a peninsula; which on the south rests on the highest mountains in Europe, and on the east opens on to the Black Sea; cannot of course possess a uniform physical character; still it has some common aspects which may be generalized. The northern watershed is everywhere flat, and the five basins included in it, the very remarkable direction of which is perpendicular to the European water-parting, are hardly divided from one another by some inconsiderable heights. It is a country far from fertile generally, whose coasts are below the sea-level, but rich,

thickly peopled, well worked, and admirably furrowed by its five rivers, which are at once the highways between the north and south of Germany, and the barriers which protect the south of Europe from the invasions of the north. The southern watershed is hilly; its single basin, the most remarkable and the second in point of extent in Europe, is bounded by vast mountains, and seems, by its direction parallel to the water-parting, to be the great highway of central Europe; it is a fertile and well-watered country, but not so rich, not so well cultivated, not so thickly peopled as the northern watershed. The north is generally cold, damp, open to all the winds of the Atlantic; the middle is healthy and very temperate, owing to the mountains which form the water-parting, being of no great height; the south, owing to the height of its soil, and the steepness of the slopes, is subject to extremes of temperature, great heat in the plains, severe cold in the mountains.

The German region is essentially a military country, the counterpoise and battle-field between the north and south of Europe; and were it not divided into a multitude of populations and powers differing in origin, interests, and language, rivals and enemies, it might rule this part of the world; but there is no country in Europe that has been more absurdly subdivided by human conventions, and this parcelling out arrests the political development of a country favoured by such an excellent geographical position, and whose inhabitants, warlike and agricultural, manufacturing and learned, are along with those of France and England at the head of civilization. Still there may be the germs of unity for Germany in the two principal races which inhabit it, the Teutonic and the Slavonic. The Teutonic race occupies, generally speaking, the north and west; it is more civilized and progressive; in religion it is protestant, politically it is under the influence or subject to the rule of Prussia; the Slavonic race occupies, generally speaking, the south and east; it is less civilized and nearly stationary; in religion it is catholic; politically, it is under the influence or subject to the rule of Austria.

The water-parting of this region, or the German Alps, is composed of a series of heights, differing in appearance, formation, and thickness; it is very tortuous, but at the same

time tolerably distinct; it runs at first from south to north, under the name of Grisons and Algäuer Alps; it then turns to the west under the name of Constance Alps, touching the southern part of the Black Forest, turns to the N.E. under the name of Rauhe Alp, Steigerwald, Fichtelgebirge, culminates in the knot of Ochsenkopf, turns to the S.E. under the name of Bohemian Mountains, resumes its direction to the N.E. by the Moravian Hills as far as the knot of the Schneeberg; it then runs in a tortuous manner eastward under the name of Sudetes as far as the sources of the Vistula; finally, it follows the Carpathians in a S.E. direction as far as Mont Sloiczek, the point dividing the waters of the Vistula, Danube, and Dniester.

This long line of heights is less a continuous chain than a succession of terraces, on which rise small chains, which on the one side command the immense plains trending towards the sea, and on the other side seem to be the preliminary terraces of the Great Alps. It throws out towards the north branches which are merely low hills, that become rapidly lost in the plains; towards the south, spurs which are denser, but very short, excepting the great semicircular chain of the Carpathians.

The central region may be divided thus: 1, *Watershed of the German Ocean;* 2, *Danish Peninsula and Islands*; 3, *Watershed of the Baltic Sea*; 4, *Watershed of the Black Sea.*

§ II.—HISTORY OF THE GEOGRAPHY OF THE GERMAN REGION.

Germania first began to be known when its inhabitants came in contact with the Romans. It was then divided into a multitude of independent and hostile tribes, united into several confederations. There were the *Franks*, between the Rhine and the Weser; the *Alemanni*, between the Main, Rhine, and Danube; the *Saxons*, in the basin of the Elbe and the Cimbrian peninsula; the *Burgundiones*, between the Oder and Vistula, &c. The Romans annexed to their empire all the right bank of the Danube, under the names of: *Vindelicia*, between the Danube, the Rhine, and the Inn; *Rhætia*, on either side of the Rhætic Alps; *Noricum*, between the Inn, the Carnic Alps, the Danube,

and an ill-defined line, running from Vindobona (Vienna) to Celeia (Cilley); *Pannonia*, between the same line, the Save, and the Danube; *Illyria*, between the Save, the Drina, and the Adriatic; *Mœsia*, between the Drina, the Danube, and the Hæmus mountains. Afterwards, under Trajan, the empire extended to the right bank of the Danube, and included *Dacia*, between the Theiss, the Carpathians, and the Black Sea.

It was from the northern watershed of this region that most of those hordes issued, who invaded the Roman empire and established themselves in it. Germania was then in extreme confusion, traversed by invading tribes, to whom succeeded Slavonic and even Tartar races; the Burgundians, the Vandals, the Suevi, merely passed through it; the Ostrogoths and Lombards occupied and then relinquished Pannonia; the Saxons advanced towards the Weser; the Franks ruled over both banks of the Rhine, and incorporated the Friesans, the Thuringians, and the Alemans with their empire; the Bavarians settled down on the Upper Danube; the Slavons appeared on the Elbe and were known by the names of Sorabs, Bohemians, Wends, Silesians, Moravians, &c.; other tribes of the same race established themselves in the countries that took the names of Carinthia, Styria, Croatia, Slavonia, Bosnia, Servia, &c. The Avaris, an Asiatic race, occupied Pannonia; the Bulgarians, of the same race, settled in the lower basin of the Danube.

Germania only emerged from barbarism and commenced to have a European existence, after the greater number of its populations had been conquered and converted to christianity by Charlemagne, and incorporated into his empire. It was then called *Eastern France*, or *Austrasia* (Oster-rike, eastern country), a denomination that has only been retained by a small part of the basin of the Danube, *Austria* (Œsterreich). The principal Teutonic nations which formed part of the western empire of the Franks were: the *Frisians*, between the Rhine and Weser; the *Saxons*, between the Weser and Elbe; the *Thuringians*, between the Weser, Saal, and Main; the *Alemans* and the *Suevi*, between the Rhine and the Danube, as far as the Lech; the *Bavarians*, between the Alps, the Danube, the Lech, and the Ens; the *Pannonians*, between the Danube and the Drave, &c. The Sorabs, Silesians, Bohemians, and Moravians, who dwelt

between the Elbe, Danube, and Oder, were tributaries; Croatia, Bosnia, and Servia, formed independent states; the same was the case with the kingdom of the Avars on the left bank of the lower Danube, and with that of the Bulgarians on the right bank; finally, the Danish peninsula was made up of several small pagan states.

In re-establishing (800) the Western Empire, Charlemagne only revived the name of that Empire, which was, in reality, destroyed by the battle of Fontanet and the treaty of Verdun. Then (843) was created the kingdom of Germany, which comprised all the country between the Rhine, the Elbe, and the Alps, with the tributary Slavonic nations, a kingdom which became the dominant power of the west by its victories over the Hungarians, its conquest of Lorraine, and especially when Otho the Great, King of Germany, obtained possession of Italy (962) and assumed the imperial dignity; from that time it became an established principle that the imperial dignity being intimately connected with the royalty of Italy, the kings elected by the German nation became, by virtue of their election to the throne of Germany, at once kings of Italy and emperors. The successors of Otho were employed during two centuries in conquering and converting to christianity the Slavonians of the Elbe and Oder; then the duchies of Bohemia, Silesia, Moravia, and Poland became christianized and tributary to the emperors; the Pomeranians and Prussians began to be mentioned as savage and pagan tribes on the borders of the Baltic; Denmark became a single kingdom, whose chiefs embraced christianity and acknowledged the suzerainty of the emperors. Finally, towards the end of the eleventh century, Hungary was converted to christianity, and formed a large kingdom, having as tributaries Slavonia, Croatia, and Dalmatia; Bosnia and Servia were independent; Bulgaria belonged to the Greek empire.

Then (1074) began the strife between the Popes and the Emperors for the dominion of the Christian world; the lords, bishops, and towns of Germany took advantage of this strife to make themselves independent of the imperial sway, and to change the kingdom of Germany into an immense federation of states, of which the Emperor was only the common head. The

Roman pontiffs carried the day; the house of Hohenstauffen, which had given four emperors to Germany and several kings to Naples and Jerusalem, was destroyed; the imperial authority fell into complete abeyance, and then occurred a long period of anarchy, during which, from lack of public power, confederations and leagues were formed, chiefly among the trading towns; the most celebrated of which is known by the name of the *Hanseatic* league (1245). This period of anarchy past, the election of the emperors, in which all the provinces and states of the Empire had hitherto participated, became the exclusive privilege of the seven great officers of the crown; these were—the Archbishops of Mentz, Trèves, and Cologne; the Count Palatine of the Rhine, the Duke of Saxony, the Margrave of Brandenburg, and the King of Bohemia. Rudolph of Hapsburg, a petty Swiss lord, was the first emperor elected (1273) by the seven electors.

In the midst of these revolutions, the great German houses arose; the house of Wittelsbach acquired (1180) the duchy of Bavaria, and soon after the Palatinate; a branch of the house of Brandenburg, called Ascanian, became possessor of the duchy of Saxony; the ancient house of the Guelphs, despoiled of Saxony and Bavaria, only retained the duchy of Brunswick; the dukes of Pomerania, Mecklenburg, and Holstein made themselves independent; the houses of Baden, Würtemberg, and Hohenzollern, raised themselves (1268) on the ruins of the Hohenstauffens, the ancient possessors of Suabia and Franconia; the landgraves of Thuringia and Hesse arose; the duchies of Austria, Styria, and Carinthia were conquered by Rudolph of Hapsburg, and given (1282) to his son, from whom sprang the house of Austria; finally, more than one hundred towns attained the rank of free and imperial towns. At this period, the crusades against the pagans of the Baltic had rendered the knights of the Teutonic order masters of Prussia; Denmark ruled in the Baltic; the kingdom of Poland was independent, and had the duchy of Silesia as its vassal; the kingdom of Hungary was master of Slavonia and Croatia, and held as vassals the states of Servia, Wallachia, and Bulgaria.

In the two following centuries, the Slavonic race of the kings of Bohemia became extinct (1309), and the house of Luxemburg which succeeded it united Silesia to Bohemia. Later,

the first race of kings of Denmark also came to an end, just as the treaty of Calmar (1397) gave to it the three Northern crowns of Denmark, Sweden, and Norway; then the house of Holstein-Oldenburg mounted the throne (1448), and reigned in Denmark until 1862, when, becoming extinct, it was succeeded by the branch of Holstein-Gottorp, which has given kings to Sweden from 1751 to 1818, and emperors to Russia since 1762. About the same time the house of Wittelsbach, which held both the Palatinate and Bavaria, divided into two branches, on the condition that if one line became extinct the other should succeed, a case which happened in 1778, when the Palatine branch acquired Bavaria. The first house of Brandenburg became extinct, and its electorate was bestowed (1417) on the Burgrave of Nürnberg, of the house of Hohenzollern, whence are derived the kings of Prussia. The house of Ascania and the Margraves of Misnia obtained the electorate of Saxony. The counties of Holland, Friesland, Guelders, &c., fell to the house of Burgundy. Hungary, under Mathias Corvinus, conquered (1458–1490) Wallachia, Moldavia, Servia, Moravia, Silesia, Lusatia, and even Austria; under his successors it also acquired Bohemia; but soon afterwards the Turks invaded it; it lost its kings and its independence at the battle of Mohacz (1526).

In 1438 the house of Hapsburg-Austria obtained the imperial throne, which it ever after retained, and from that time it increased to such a degree that at the end of this century it was in possession of the Netherlands, Franche-Comté, Spain, the Milanese, the Two Sicilies, Sardinia, &c. Maximilian divided the country into nine administrative circles: Austria, Bavaria, Suabia, Franconia, Upper Rhine, Lower Rhine, Westphalia, Upper Saxony, Lower Saxony. Charles V. added to these the circle of Burgundy, formed of the Netherlands. After him, the house of Austria separated into two branches, that of Spain and that of Germany. Ferdinand I., the stem of the German branch, retained Austria, Styria, Carinthia, Carniola, and in 1526 he acquired Hungary, Bohemia, Moravia, Silesia, Slavonia, and Croatia. His successors on the imperial throne wished to render their power in the Empire absolute, and their title hereditary; the Protestant princes of Germany rose against them, supported by the kings of France, and this led to the

Thirty Years' War. The Bohemians gave the signal by choosing as their king the Elector Palatine; he was defeated; the King of Denmark put himself at the head of the Protestants; he was in his turn defeated; the King of Sweden, Gustavus Adolphus, succeeded him; he conquered the half of Germany, and died in the midst of his triumphs; finally, France intervened directly in the quarrel, and forced the house of Austria to sign the treaty of Westphalia (1648), by which the constitution of the German Empire was reformed, its federal character legally established, and the sovereignty of the states of Germany secured. An eighth electorate was created in favour of the Duke of Bavaria. The independence of Switzerland, which had been for three centuries in a state of chronic insurrection against the Empire, was secured. The independence of the seven northern provinces of the Netherlands, which for a century had been in a state of revolt against the Spanish branch of the house of Austria, was recognized, and they became the Republic of the United Provinces. But in the midst of all these changes the German branch of Austria lost none of its possessions, and it was at the expense of the ecclesiastical sovereigns that Brandenburg, Saxony, Mecklenburg, Hesse, &c., were enriched.

A power now arose which was able to guarantee the treaty of Westphalia, and to balance the sway of the house of Austria; this was Brandenburg, whose princes acquired successively Prussia, the duchy of Cleves, Magdeburg, Minden, Halberstadt, part of Pomerania, &c.; the Elector, Frederic III., took (1701) the title of King of Prussia as Frederic I. At the same time the Electoral house of Saxony obtained the throne of Poland; and the house of Brunswick-Hanover (a younger branch of the ancient house of Guelph), for which a ninth electorate had just been created, inherited the crown of Great Britain. These changes produced less alteration in the Germanic constitution than the aggrandizement of the German branch of Austria, which, by the extinction of the Spanish branch, acquired in 1713 the Netherlands, the Milanese, &c.; she was not disturbed except on the eastern side, where the Turks, having made themselves masters of Wallachia, Moldavia, Bulgaria, Bosnia, and Servia, were constantly invading Hungary, and penetrated as far as Vienna itself. Fifty years of war ended by giving to the Austrian

States and the Ottoman Empire their common boundary, the Eastern Carpathians, the Danube, the Save, and the Unna.

In 1740, the Emperor Charles VI. died, leaving only daughters; several pretenders to the imperial dignity and to the succession of the Austrian States appeared; but, in spite of the war they kindled, Maria Theresa, daughter of Charles VI., succeeded in causing the Duke of Lorraine, her husband, to be elected Emperor, and in securing to him the possession of the hereditary States. Still, the power of Austria was shaken and the unity of the German body broken by the aggrandizement of Prussia, who, in the scuffle, managed to wrest Silesia from Austria, and by her military prowess acquired such a powerful voice in German matters, that thenceforward she regarded herself as the protectress of Germany. But that great political crime the dismemberment of Poland tended to unite the rivals and to bind them so closely together, that in spite of provocations, rivalries, and conflicting interests, they abstained from fighting with one another for more than a century, and when at length in 1866 they came into collision, Prussia manifested an immense superiority over Austria.

After she had rendered herself independent of the Emperors, Poland became very powerful under her kings, whose rank became permanently established in 1320; she wrested Volhynia, Podolia, and Red Russia from the Russians in the fourteenth century; Polish Prussia from the Teutonic Knights in the fifteenth; finally, she gained Lithuania in 1379, when, on the extinction of her first dynasty of kings, she called to the throne the Grand Duke Jagello, by the style of Ladislas V. She then ruled all the north of Europe, and extended from the Baltic to the Black Sea; this was the period of her greatest power. In 1572 the Jagello race became extinct, and the throne became purely elective. From this time began the decline of Poland; she lost Prussia, Ukrain, Kiev, Smolensk, in the seventeenth century, and strove with difficulty against the new power of the Prussians and Russians. Sobieski gave her a transient gleam of splendour when he delivered Vienna, besieged (1683) by the Turks; but her fall was not stayed, and Poland had not a century to wait before experiencing the ingratitude of Austria.

In 1772 the Poles altered their constitution, and made the crown hereditary; Russia interfered; Prussia and Austria

offered their services as mediators, and a treaty was speedily concluded, by which the three powers resolved on the dismemberment of Poland. Austria got Galicia, Cracow, and Sandomirz; Prussia got Polish Prussia with the district lying beyond the Netze. A wretched kingdom of Poland was suffered to exist, the vicious constitution of which was guaranteed. In 1791 the Poles altered this constitution; Russia immediately attacked them; and a second dismemberment was effected, which left to the kingdom of Poland only three millions of inhabitants. The Poles, driven to desperation, rushed to arms; but three armies, Russian, Prussian, and Austrian, marched upon them; and after a sanguinary struggle, the final partition of all Poland was carried into execution (1792).

Prussia and Austria entered into alliance, not only for the dismemberment of Poland; the French Revolution having given birth to new interests which altered all the old political systems, these two powers joined the coalition against France; but this proved the ruin of the ancient empire of Charlemagne. The treaties of Campo Formio and of Luneville (1797 and 1801) having given France the Rhine frontier, the Germanic constitution was upset, by the princes of the left bank being dispossessed of their States; and they had to be indemnified by getting the Ecclesiastical States which were secularized, and the imperial towns which were suppressed. In place of the three electorates of Treves, Cologne, and Mentz, were created the electorates of Baden, Würtemberg, Hesse, and Salzburg; and the only imperial towns permitted to exist were Hamburg, Lübeck, Bremen, Frankfort, Augsburg, and Nürnberg.

This redintegration of the German Empire enabled it to subsist for four years longer. Napoleon completed its destruction by making kingdoms of Würtemberg, Bavaria, and Saxony which he aggrandized at the expense of Austria and Prussia, and by welding Hanover, Hesse, and Brunswick into the kingdom of Westphalia; by creating the Grand Duchies of Berg, Frankfort, and Würzburg; by making part of Poland into the Grand Duchy of Warsaw; by seizing on Mecklenburg, Oldenburg, Bremen, Hamburg, Lübeck, &c.; by changing the Republic of the United Provinces into a Kingdom of Holland, which he subsequently incorporated with the French Empire; finally, by creating in the place of the Germanic Confederation, a Confedera-

tion of the Rhine, of which he constituted himself the Protector, in which neither Prussia nor Austria were included, and which was composed of thirty-four States. Then Francis II., the last successor of Charlemagne, abdicated his title of Emperor of the *Holy Roman Empire*, made an Empire of his hereditary dominions, and proclaimed himself Emperor of Austria, under the title of Francis I. (1806).

This state of things continued until the fall of Napoleon. Then, by the treaties of 1814 and 1815, Prussia and Austria resumed their old possessions with a great increase of territory; the kingdom of Westphalia, together with the Grand Duchies of Berg, Frankfort, and Wurzburg, disappeared; Hanover was made a monarchy and restored to the British house of Brunswick; part of Poland was re-erected into a kingdom for the benefit of the Emperor of Russia; the United Provinces were joined to Belgium to form the Kingdom of the Netherlands; Frankfort, Bremen, Hamburg, and Lübeck were declared free; finally, in place of the Western Empire, a Germanic Confederation was made.

This Confederation was composed of thirty-five independent and equal States, which sent deputies to a Diet, called together to regulate the interests of the Confederation, whose President was the deputy of Austria. The Confederate States engaged themselves to defend not only the whole Confederation, but every member of the Confederation; they could not make war except upon the enemies of the Confederation, and might not conclude a peace, contract a separate alliance, nor make any engagement prejudicial not only to the whole Confederation, but to any single member of it. The seat of the Diet was at Frankfort on the Main. The ordinary Diet was composed of seventeen votes; the extraordinary Diet, which only assembled to make fundamental laws, of sixty-six votes; the number of votes of each State was regulated by its size and population. The Federal army consisted of 553,000 men, divided into ten corps, with a reserve. The Federal fortresses, all facing France, against which this Confederation was chiefly instituted, were Luxemburg, with a mixed Prussian and Dutch garrison; Mentz, with a mixed Austrian and Prussian garrison; Landau, with a Bavarian garrison. To these were latterly added Ulm, Germersheim, and Rastadt. The population of the Confederation numbered 45,000,000, of

which 33,000,000 belonged to the German race, 7,000,000 to the Slavonic race, and 5,000,000 to other races. The number of Catholics was 24,000,000, and of Protestants 23,000,000.

By means of this Confederation Prussia and Austria together ruled Germany; but all causes of rivalry between these two powers by no means disappeared.—Prussia was echeloned from the Rhine to the Niemen, commanding all the German rivers which run from south to north, the Rhine, the Weser, the Elbe, the Oder, and the Vistula; she was a fragmentary sort of country, but the government, by its success in causing a flourishing state of education, commerce, and agriculture, effected a sort of moral unity and a community of interests among these fragments collected from all quarters; she stretched her hands wherever Teutonic elements existed, and threatened to become in the end the nucleus of German nationality. Five-sixths of her population were of Teutonic race, one-sixth only of Slavonic or French origin, four-sixths were Protestants, only two-sixths Catholic; finally, of the eighteen millions of inhabitants composing the total population of Prussia, fourteen millions were German, and thirteen millions belonged to the Germanic Confederation.*—Austria extended much farther southwards; she enveloped the half of that great Danube which runs away through countries almost all of which are Slavonic; from the heights of Tyrol she threatened Italy and Switzerland; she turned Bavaria by the Alps, and extended to the Lake of Constance and the Rhine; she imposed her yoke, on either side of the Carpathians, on the descendants of Sobieski and Mathias Corvinus; she bathed her feet in the lagoons of Venice, and bound about her brow the iron crown of Lombardy; finally, she coveted the remains of Turkey, into which she pushed her Croatian advanced posts. She was a power becoming daily, and in spite of her efforts, more alien to that Germany she so long

* Prussia of late years united to herself by commercial bonds almost all the small German States, by abolishing the custom-house boundaries between herself and the States; the *Zollverein* was the commencement of that political unity, which is now nearly completed. The *Zollverein* included Prussia, the kingdoms of Bavaria, Saxony, Würtemberg, and Hanover, the Grand Duchies of Baden, Oldenburg and Hesse, Electoral Hesse, the duchies of Brunswick and Nassau, the four Saxon duchies, the town of Frankfort, &c.

ruled, and whose sceptre has just fallen from her hands. Four-fifths of her population were of Slavonic, Magyar, Rouman, or Italian race; one-fifth is German; five-sixths are Catholics, one-sixth Protestant or Greek; finally, of the thirty-six millions composing her total population, only fourteen millions belonged to the Germanic Confederation.—The following table shows the comparative position of Austria and Prussia in the year 1866.

PROVINCES.	POPULATION.	RACE.	RELIGION.
PRUSSIAN STATES.			
Prov. of the Rhine (G. C.*)	3,346,195	German	Cathol., Protest.
Westphalia (G. C.)	1,666,581	German	Cathol., Protest.
Saxony (G. C.)	2,043,975	German	Protestant.
Brandenburg G. C.)	2,616,583	German	Protestant.
Silesia (G. C.)	3,510,706	Slav., German	Cathol., Protest.
Pomerania (G. C.)	1,437,375	German	Protestant.
Posen	1,523,729	Slavonic	Cathol., Protest.
Prussia	3,014,595	Slav., German	Protest., Cathol.
Hohenzollern	64,958	German	Protestant.
Various	30,442		
	19,255,139		
AUSTRIAN STATES.			
Austria (G. C.)	2,469,858	German	Catholic.
Salzburg (G. C.)	154,319	German	Catholic.
Tyrol (G. C.)	925,066	German, Italian	Catholic.
Styria (G. C.)	1,905,078	Slav., German	Catholic.
Carinthia (G. C.)	346,150	Slav., German	Catholic.
Carniola (G. C.)	505,886	Slav., German	Catholic.
Littoral† (G. C.)	613,056	Ital., Slavonic	Catholic.
Dalmatia	432,337	Slavonian	Catholic, Greek.
Hungary	8,744,481	Magyar, Rouman, Slavonic	Catholic, Greek, Protestant.
Croatia and Slavonia	967,136	Slavonic	Catholic, Greek.
Voivodia and Banat	1,574,428	Slavonic, Rouman	Catholic, Greek.
Military Frontier	1,054,794	Slavonic	Catholic, Greek.
Transylvania	2,285,572	Slav., Rouman	Greek, Catholic.
Bukowina	430,664	Slav., Rouman	Greek, Catholic.
Galicia	5,056,647	Slavonic	Catholic, Greek.
Moravia (G. C.)	1,972,165	Slav., German	Cathol., Protest.
Silesia (G. C.)	479,321	German, Slav.	Cathol., Protest.
Bohemia (G. C.)	4,890,818	Slav., German	Cathol., Protest.
Venetia	2,493,968	Italian	Catholic.
	36,402,804		

* These letters indicate the provinces belonging to the extinct German Confederation.
† The name given to the provinces of Goritz, Gradisca, Trieste, and Istria.

Such was the position of the rival claimants of the leadership of Germany until 1866. The campaign that terminated with the battle of Sadowa expelled Austria altogether from Germany and Italy. She had to renounce her position in the Germanic Confederation, and to resign Venetia to Italy (Lombardy had been already wrested from her in 1859). By the loss of Venetia her population has been reduced to 33,908,836, and since her disastrous campaign with Prussia, she has been forced to restore the autonomy of Hungary, suppressed since 1849. This war also brought the Germanic Confederation to an end. In its stead, Prussia, after adding to her own dominions the kingdom of Hanover, Electoral Hesse, the territory of Frankfort, the Duchies of Nassau, Holstein, Sleswig, and Lauenburg, and portions of Bavaria, and Hesse Darmstadt, has succeeded in establishing a North German Confederation, consisting of all the German States north of the Main, including Saxony. This new confederation of German States elects members for a general parliament, which assembles at Berlin. The supreme control of military and foreign affairs is vested in Prussia. The States south of the Main, Bavaria, Würtemberg, and Baden, have formed a treaty with Prussia, whereby all their military power is at her disposition.

The increase to Prussia by her various annexations since the war amounts to 27,222 square miles, containing 4,273,096 inhabitants, raising her total population to 23,577,939. If we add to these numbers the population of the other States of the Northern Confederation, the resources of which are at the command of Prussia, together 5,449,212 inhabitants, this will give a total of 29,027,125 inhabitants, whence Prussia can draw her material in men and money for offensive or defensive purposes. As the States south of the Main, with a population of 8,775,887, have also placed their military forces in her hands, she commands all the resources of 37,803,012 inhabitants.

The disruption of the old Germanic Confederation, with its rival heads and its loosely connected members, has completely altered the military importance of Germany. There is now in the north an immensely powerful and compact State, with a splendid military organization, and without a rival on German soil. For all purposes of defence or attack, Prussia must now be reckoned one of the most, if not the most powerful of European States.

§ III.—WATERSHED OF THE GERMAN OCEAN.

1.—BASIN OF THE RHINE (right bank).*

Encircling Mountains on the East.—We have already seen (page 199) that the eastern boundary of the Rhine basin is formed: 1, by the *Grisons* and *Algau Alps;* 2, by the heights of *Constance* and the *Black Forest;* 3, by the *Suabian Alps*, the *Steigerwald*, and the *Fichtelgebirge;* 4, by the *Frankenwald*, *Rhönegebirge*, the *Vogelgebirge*, the *Rothaargebirge*, the *Eggegebirge*, and thence by slightly-marked undulations to the Zuiderzee.

1. From Mont Maloia the *Grisons Alps* run N.E., they are a very dense and very high range, throwing off spurs of considerable size among the first tributaries of the Rhine: we find in them two very difficult passes running from the Albula to the Inn; the *Julier Pass*, 7,503 feet high, and the *Albula Pass*, 7,588 feet high. At *Mont Silvretta*, a very remarkable group of mountains, three chains are thrown off; the first, on the east, runs between the Inn and its first tributaries; the second, on the west, runs between the Landquart and the Ill, separating Switzerland from Austria; it contains the peak of *Scesa Plana*, 9,737 feet high; the third, on the north, continues the boundary of the Rhine basin, under the name of *Algau Alps* or *Vorarlberg;* it also throws off very dense spurs between the tributaries of the Rhine, and forms a mass of mountains from 7,000 to 10,000 feet high, which is crossed by but few roads. The most remarkable of these runs from Feldkirch on the Ill to Landeck on the Inn, by the pass of *Adelsberg*.

2. At the Lake of Constance commence the *heights of Constance*, which run from S.E. to N.W., but whose water-parting is by no means distinct; they are not so much hills as a country raised some 3,000 to 4,000 feet, composed of heights gently sloping, whose summits terminate in broad plateaus; these heights are easy of access, and crossed by roads of great importance, leading from the forest towns to the narrow valley of the Upper Danube. The most remarkable run: 1, from Lindau to Biberach; 2, from Schaffhausen, by Stockach, to Möskirch or Osterach; this is the most important; it was the route followed by Moreau in 1800; 3, from Schaffhausen, by

* For the left bank of the Rhine basin, see p. 205.

Engen, to Donaueschingen or Tuttlingen; 4, from Waldshut to Donaueschingen.

Between the sources of the Danube and Wutach lies, on the west, the *Black Forest* (Schwarzwald), whose southern spurs spread out towards the Rhine, facing the last elevations of the Jura. This chain runs from S.W. to N.E.; it is 120 miles long by 35 broad; it is parallel to the Vosges, of the same height, composition, and importance, and the two together enclose the Rhine in a rich and picturesque valley. Its heights are all wooded, and their most precipitous part is on the Rhine. Like the Vosges, the Black Forest only forms the boundary of the Rhine basin for about 20 miles; but it is prolonged N.E. as far as the confluence of the Rhine and Neckar, whose basins it separates, just as the Vosges separate those of the Rhine and Moselle. Its mean height is about 3,000 feet, and its highest peak, the *Feldberg*, attains a height of 4,674 feet. It diminishes in height towards the north, and its ramifications on the river lose their ruggedness. Its valleys, except that of the Neckar, are generally perpendicular to its crest, and open numerous but difficult communications between the Rhine, the Danube, and the Neckar. The chief go: 1, from Freiburg to Donaueschingen by the Höllenthal; 2, from Strasburg to Villingen on the Danube, by the river Kinzig; these two roads are very important for gaining the narrow valley of the Upper Danube; they cross the densest part of the Black Forest; the first was that pursued by Villars in 1703, and by Moreau on his retreat in 1796; 3, from Strasburg to Stuttgart by Freudenstadt and the defile of Knicbis, 3,194 feet high and defended by fort Alexander; this road is celebrated in the Thirty Years' War, in 1797 and 1805; 4, from Rastadt by the Murg, Freudenstadt, the Upper Kinzig and Villingen to the Upper Danube; this new road, which for some distance runs along the crest of the Black Forest, is of great importance; 5, from Mannheim to Heilbronn by Heidelberg.

3. Between the sources of the Neckar and Danube, the Black Forest ceases to form the enclosing hills of the Rhine basin, which are continued by the *Rugged Alps* (Rauhe Alp) or *Swabian Alps*, which run from S.W. to N.E., as far as the sources of the Altmühl for about 120 miles; their height is 1,500 to 3,000 feet; their highest peak is the *Hohenberg* (3,369 feet). They form a

plateau of from 15 to 20 miles wide, where the water-parting is not distinct, the climate severe, the soil stony, bare, ill-peopled; their most rapid slope is directed towards the Neckar. In their eastern part lies *Hohenstauffen* (2,404 feet), on whose summit stood a strong castle, the cradle of the illustrious family of that name. They are crossed by several roads: 1, from Rothweil to Tuttlingen; 2, from Tübingen to Riedlingen; 3, from Stuttgart to Ulm; 4, from Heilbronn, by Hall and Nordlingen, to Donauwerth. The two last-named are specially remarkable; they were the routes taken by the French army in 1805.

At the sources of the Altmühl and Tauber, the enclosing belt descends rapidly to the S.E., and includes the hilly and wild country of the *Steigerwald*, crossed by several roads: 1, from Würzburg by Anspach to Donauwerth or Ingolstadt, celebrated in the campaign of 1805; 2, from Nürnberg to Nordlingen. The Steigerwald forms the southern wall of the *plateau of Franconia*. This plateau stretches from the Altmühl to the Frankenwald, and includes principally the upper basin of the Main. The heights of the Steigerwald, those of the Fichtelgebirge, and of the Frankenwald, become gradually lost, and form of this part of Germany an elevated, diversified, wooded country of great importance, inasmuch as it connects the basins of the Rhine, Danube, and Elbe. After the Steigerwald the enclosing belt resumes a N.E. direction, and comprises a tract of country from 2,600 feet to 3,000 feet high, the *Fichtelgebirge*, the climate of which is cold, the soil not very fertile, and which is crossed by several roads: 1, from Nürnberg to Regensburg (Ratisbon); 2, from Nürnberg to Amberg; 3, from Baireuth to Amberg. It extends as far as the *Ochsenkopf* (3,408 feet), a nucleus of hills which sends off streams in every direction: the Main on the west, the Naab on the south, the Eger on the east, the Saale on the north. Here commences the *Frankenwald*, very rounded hills, which form the northern wall of the plateau of Franconia; their greatest height does not exceed 1,600 feet; they run N.W.; their most rapid slope is directed to the east and north, and they separate the sources of the Main from those of the Saale. They are crossed by three roads: 1, from Baireuth to Hof; 2, from Kronach to Schleitz; 3, from Coburg to Saalfeld; it was by these three roads that Napoleon in 1806 made

his manœuvre, changing front to the right, in order to turn the Prussian army, which was concentrated on both sides of the Thuringian forest, between Eisenach and Jena.

4. At the source of the Werra, the Frankenwald joins, on the S.W., the *Rhönegebirge*, a small unimportant chain which runs from east to west, separating the sources of the Weser from the Main, towards which it is rather precipitous; it forms a sterile tract of country, whose highest point is 3,024 feet. From it runs a series of wooded hills, fringed by perpendicular sides, whose highest points are from 1,600 to 2,000 feet; this is the *Spessart*, which runs to the Main and is prolonged across that river under the name of the *Odenwald*, gentle wooded heights, which spread out between the mouths of the Neckar and Main. On the N.W. the Rhönegebirge join the *Vogelsgebirge*, which run from S.E. to N.W., separating the Weser from the Rhine. These hills, whose highest points are about 2,500 feet, are as barren as those last mentioned, and throw off important spurs: 1, the *Taunus*, which separates the Lahn from the Main, and looks like the prolongation of the Hundsrücken, cut through by the Rhine between Mentz and Coblenz; its greatest height is about 2,778 feet; it is renowned for the beauty of its sites and the richness of its soil; 2, the *Westerwald*, a small block between the Sieg and Lahn, formed of undulating plateaus, the highest point of which is 1,770 feet.—Roads: 1, from Bamberg to Hildburghausen; 2, from Würzburg to Fulda; 3, from Hanau to Fulda; this forms part of the great road from Mentz to Leipzic, celebrated in the retreat of 1813; a railway now skirts this road; 4, from Coblenz to Cassel.

At the sources of the Sieg and Lahn, the Vogelsgebirge join the *Rothaargebirge*, which are less a distinct chain than a hilly mass extending in all directions, and having peaks of 2,500 feet high. These hills are prolonged to the north by the *Eggegebirge*, a small chain of 2,000 feet in height, without breadth or any apparent peaks, which becomes lower towards the N.W., at the sources of the Ems takes the name of *Teutoburgerwald*, and finally merges into some scarcely undulating knolls which separate the Ems from the Weser; these knolls complete the eastern belt of the Rhine basin.—Roads: 1, from Cologne by Paderborn to Hameln; 2, the railway from Düsseldorf by Hamm to Minden and Hanover; 3, from Wesel by Münster to Osna-

brück, and from Osnabrück to Hanover or Bremen; 4, from Amsterdam to Osnabrück.

General Aspect.—See Basin of the Rhine (left bank), p. 205.

Course of the River.—See pp. 205, 212, 220.

Tributaries of the Upper Rhine on the Right.—1. The *Albula*, a torrent which flows from S.E. to N.W., through a very rugged valley, by which roads lead from Tusis on the Hinter Rhein* to the valley of the Inn, over the Julier and Albula passes.

2. The *Landquart*, a torrent which rises in Mont Silvretta; it is skirted by a road which comes from the Rhine through the Prættigau, and joins the one just mentioned.

3. The *Ill* rises in the group of Silvretta, and flows through the valley of Montafon, which opens up the chief communication betwixt Tyrol and Switzerland: this valley is defended by FELDKIRCH, a small fortified town in an important situation, fruitlessly besieged by Massena in 1799, taken by Lecourbe in 1800.

4. Some streams fall into the Lake of Constance, and are only important by the communications they open; the most remarkable is the *Stockach*, which runs past STOCKACH, a town where the roads from Switzerland, the Black Forest and the Neckar meet, in a district abounding in little valleys and marshes; it is a highly strategic position, especially when military operations require the invading army marching by the upper defile of the Danube, to keep up its communication with Switzerland. Battle of 1799, gained by the Archduke Charles over Jourdan, the effect of which was to make the French retreat across the Rhine; battle of 1800, gained by Lecourbe over the Austrians, which enabled the French to penetrate into the basin of the Danube. The importance of the Stockach, of the roads that it opens, and of the positions it contains, is connected with that of the *Aach*, a stream that runs into Lake Constance, and which flows by ENGEN, a strategic position in advance of Stockach: battle of 1800, when Moreau beat the Austrians, and gained an entrance into the defile of the Upper Danube.

5. The *Wutach*, a torrent which rises in the Feldberg, and

* There is a difficult passage from the Albula to the valley of Montafon on the Ill, in a northerly direction, by a branch of the Albula, called the Landwasser, which washes the valley of Davos and leads into the Prættigau valley drained by the Landquart. Between the Prættigau and the Montafon valleys there are several passes.

terminates opposite the Aare; it is skirted by the road from Waldshut to Donaueschingen.

Political Divisions.—The basin of the Upper Rhine (right bank) includes:

1. Part of the canton of the *Grisons* (Swiss Confederation: see p. 208).

2. The Principality of *Lichtenstein*, cap. Vaduz, which formed part of the extinct Germanic Confederation.

3. Part of the *Vorarlberg*, which belongs to the Austrian Empire.

4. The western part of the Kingdom of *Bavaria*,

5. The southern part of the Kingdom of *Würtemberg*.

6. The eastern part of the Grand Duchy of Baden.—These four last-mentioned States touch the Lake of Constance, on the northern bank of which they jostle one another, in order, as it were, to bathe their extremities in the waters of the Rhine. Austria is extremely well placed to debouch by Feldkirch on the Rhine, one bank of which she holds, and thence into Switzerland by Appenzell and Zurich. Thus Switzerland seems to be an immense bastion of the *French region*, menaced on the north by the three German States that abut on the Rhine, and on the east by the Austrian Empire, that also threatens it on the S.E. on the side of the Great Alps.

Tributaries of the Middle Rhine on the Right.—1. The *Elz* rises in the Black Forest, behind the sources of the Danube, flows with rapid course through a deep valley, receives the *Dreisam*, which runs by FREIBURG, a town formerly fortified, which closes the road from Strasburg into the defile of the Upper Danube; battle of 1644, won by Turenne and Condé over the Imperialists. It terminates after a course of 35 miles. Its direction, from S.E. to N.W., is the same as that of all the tributaries coming from the Black Forest.

2. The *Kinzig* washes OFFENBURG and ends at Kehl. It is skirted by the road from Strasburg to Villingen, the most direct route for penetrating into the basin of the Danube from France.

3. The *Renchen* washes RENCHEN, battle of 1796, when Moreau beat the Austrians. This valley is celebrated in the campaign of 1675; it was here Turenne forced Montecuculli to abandon his positions on the river.

4. The *Murg* washes RASTADT, a federal fortress of the late

Germanic Confederation, celebrated for the treaty of 1714, the battle of 1796, when Moreau beat the Austrians, and the Congress of 1799. Its valley, narrow and difficult, contains some remarkable positions, with the road from Freudenstadt leading to the Upper Danube.

5. The *Neckar* (Nicer) rises in the Black Forest, flows at first S.E., washing ROTHWEIL, an ancient fortress celebrated for the siege of 1640, when Guébriant was killed; it then turns to the north as far as SULZ, where it inclines much to the east; it washes TÜBINGEN, famous for its university, passes near STUTTGART, capital of the kingdom of Würtemberg, centre of the roads connecting the Rhine with the Danube; it leaves on the left LUDWIGSBURG, the chief arsenal of Würtemberg, with a military school, and flows N.W., washing HEILBRONN. It then turns west, washes HEIDELBERG, the ancient capital of the Counts Palatine of the Rhine, sacked by the French in 1689 and 1693;—LADENBURG, battle of 1674, where Turenne defeated the Imperialists;—MANNHEIM, where its course terminates.

It receives: 1, the *Fils*, which rises in the Swabian Alps, and opens a road from Stuttgart to Ulm, followed by the French in 1805; 2, the *Enz*, which rises in the Black Forest, washes PFORZHEIM, and opens a road from Carlsruhe to Stuttgart; 3, the *Kocher*, which rises in the Swabian Alps, washes HALL, celebrated by the union of the Protestants in 1610, and opens a road from Heilbronn to Nordlingen, followed by the French in 1805; 4, the *Jaxt*, which rises in the Steigerwald, washes ELLWANGEN, and runs parallel to the Kocher; 5, the *Elsens*, which rises in the Black Forest and runs by SINSHEIM, battle of 1674, when Turenne defeated the Imperialists.

The valley of the Neckar is enclosed on the west by the Black Forest, on the south by the Swabian Alps, on the east by the Odenwald. It thus has a triangular basin, at the apex of which it issues, penetrating the barrier opposed to it by the junction of the Odenwald and Black Forest; it is a very much intersected country, fertile, populous, opened up by many communications. The Neckar is not a defensive line in rear of the Black Forest; on the contrary it opens a highway for penetrating into the basin of the Danube, and the sort of plateau its basin forms seems intended to facilitate the passage between the two great neighbouring rivers. The plan of the campaign of 1805 was founded

on the number and facility of their communications. (See Basin of the Danube.)

6. The *Main* (Mœnus) rises in the Fichtelgebirge, runs from S.E. to N.W., washing BAIREUTH, a town surrounded by old walls, the point of union of the roads from the Elbe, the Main, and the Danube; it then runs S.W. as far as the confluence of the Rednitz. Then it flows almost due west, as far as SCHWEINFURTH, a badly fortified town, battle of 1796, in which Jourdan was defeated; it again runs south, washing KITZINGEN, resumes a N.W. direction, washing WÜRZBURG, formerly a sovereign bishopric, an indifferent fortress commanded by the castle of Marienberg; battle of 1796, lost by Jourdan. It then runs S.W. onwards from GEMÜNDEN, a strong position at the confluence of the Saale; it again turns N.W., washing ASCHAFFENBURG, battle of 1866, when the Prussians beat the Federals;—DETTINGEN, battle of 1743, in which the French under Noailles were defeated by the English and Hanoverians under George II.;—HANAU, an important position at the confluence of the Kinzig, battle of 1813, in which the Bavarians were defeated in an attempt to cut off the retreat of the French army;—FRANKFORT, formerly a free town, and the seat of the Diet of the Germanic Confederation, annexed to Prussia since 1866 (pop., 64,000). It terminates opposite Mentz and receives: 1, the *Rednitz* (on the left), which rises in the Steigerwald, passes near ANSPACH, leaves on the right, at five miles distance, NÜRNBERG, formerly an imperial town, in a very important position, at the point of union of six roads, connecting the basins of the Elbe, the Main, and the Danube; celebrated by the siege of 1631, in which it was defended by Gustavus Adolphus; after this it runs by FORCHHEIM, a fortified town and a remarkable position, at the confluence of the Wissend; BAMBERG, battle of 1796, lost by Jourdan; below this town it falls into the Main; 2, the *Saale* (on the right) washes KISSINGEN; engagement of 1866, when the Prussians beat the Federals; 3, the *Tauber* (on the left), which rises in the Steigerwald, washes MERGENTHEIM or MARIENTHAL; battle of 1645, in which Turenne was defeated by Merci; it ends at WERTHEIM; 4, the *Kinzig* (on the right), which ends at Hanau; 5, the *Nidda* (on the right), which runs near BERGEN; battle of 1759, in which the French beat the Hanoverians.

The basin of the Main is bounded on the south by the Rauhe

Alps, the Steigerwald, and the Fichtelgebirge; on the north, by the Frankenwald, the Rhönegebirge, and the Taunus. It rises in the Ochsenkopf, and the only part of its course where it is not accessible is in this mountain group; everywhere else, and especially in the Franconian plateau, it is crossed in every direction by roads connecting northern and southern Germany. It is the only river in this region, besides the Danube, running parallel to the equator; and this direction gives it great military importance. By it, Saxony, Bohemia, and Bavaria may be penetrated, and Prussia reached on the north, Austria on the south; it acts as a connecting link, not only to the rivers of the German Ocean among one another, but also between these rivers and the Danube. It may be of considerable importance in three points of view: in the first place, notwithstanding its numerous windings and fortresses, it is but an indifferent line of defence for southern Germany against northern Germany; this was proved by the campaign of Gustavus Adolphus. In the second place, it opens a long, difficult, indirect communication with the basin of the Danube; this was proved in the campaign of 1796, when the eccentric direction pursued by Jourdan necessitated a disastrous retreat, and led to the loss of the basin of the Danube; still Napoleon availed himself successfully of it in 1805, by pushing it, so to speak, towards the Neckar, by means of the road from Frankfort by Wurzburg to Donauwerth. In the third and last place, it is of incalculable importance from the direct and easy communication it opens from Mentz to the basin of the Elbe, and *vice versâ*, by turning the Lower Rhine, the Weser, and the broad countries included between them, and by having its flank protected by the Danube and the Bohemian mountains; this was proved by the march of the French army in 1806 on the basin of the Saale, and by its retreat in 1813, which was effected in one single course from Leipzig to Mentz, in spite of the opposition offered by the Bavarians, who were crushed at Hanau. The Main forms the boundary line between the North German Confederation and the South German States.

7. The *Lahn* rises in the Westerwald, flows through a hilly country, washing MARBURG, WETZLAR, and NASSAU, and falls into the Rhine above Coblenz.

8. The *Wied* passes by ALTENKIRCHEN, battle of 1796, gained by Jourdan over the Austrians, and ends at Neuwied.

9. The *Sieg* rises in the Westerwald, washes SIEGEN, and ends below Bonn..

10. The *Wipper* washes ELBERFELD, a town with 50,000 inhabitants, the great manufacturing centre of Prussia, and SOLINGEN, celebrated for 500 years for its manufactory of arms.

11. The *Ruhr* rises in the Egge Gebirge, washes ARNSBERG, passes near ESSEN, manufactory of arms, and ends below DUISBURG.

12. The *Lippe* rises in the Egge, passes near PADERBORN, a celebrated town in the time of Charlemagne, and near which is the *Teutoburg* forest, where Arminius defeated the legions of Varus; it washes LIPPSTADT and HALTERN, and ends at Wesel; though larger than the preceding rivers it is everywhere fordable, and cannot serve for defensive purposes.

The population of the six last-named basins is numerous, rich, and chiefly engaged in iron manufactures. The whole country has but little military importance, as it only leads into the basin of the Weser, which is but a secondary basin. It was the theatre of Turenne's marches in 1672, and it was between the Lippe and the Ruhr that he won the fights of *Unna* and *Soest;* it was also, particularly the basin of the Lahn, the theatre of the marches and countermarches of the French and Hanoverians in the Seven Years' War.

Political Divisions.—The basin of the Middle Rhine (right bank) comprises: 1, the Grand Duchy of *Baden.* This State, the capital of which is Carlsruhe, occupies all the right bank of the Rhine from Basel to Mannheim, and extends on the south to the Lake of Constance, and on the north to the Main, where it possesses Wertheim; it covers Germany from invasions of the French by the Rhine and the Black Forest, the defiles of which it holds, as also the mouth of the Neckar; Teutonic race, Catholic religion, representative monarchy.

2. The principalities of *Hohenzollern Sigmaringen* and *Hohenzollern Hechingen,* have belonged to Prussia since 1850.

3. The greater part of the kingdom of *Würtemberg,* capital Stuttgart, occupies almost all the basin of the Neckar; but this kingdom is surrounded on all sides by the States of Baden and Bavaria; Teutonic race, Lutheran religion, representative monarchy.

4. The Duchy of *Hesse Darmstadt,* which possesses both

banks of the Rhine and the mouth of the Main, the portion on the north of the river was united to the North German Confederation in 1866; Teutonic race, Lutheran religion, representative monarchy.

5. The northern part of the kingdom of *Bavaria*, contained in the basin of the Upper Main; all that part lying on the right bank was ceded to Prussia in 1866.

6. The Duchy of *Nassau*, on the Rhine, dovetailed between the States of Hesse and Prussia; capital Wiesbaden, now annexed to Prussia; Teutonic race, Calvinist religion, representative monarchy.

7. The town of *Frankfort*, formerly a free town, now annexed to Prussia; Teutonic race, Protestant religion.

8. Part of the kingdom of Prussia, comprising the province of Westphalia, capital Münster.*

Tributaries of the Lower Rhine on the Right.—There are none of any interest.

Coast Streams and Coasts from the Mouths of the Rhine to those of the Weser.—1. The *Vecht* rises in the last heights of the Egge, runs from S.E. to N.W. in a marshy and inundated country; receives a tributary, which passes by COEVERDEN, a fortress at the entrance of the Bourtanger Marsh, Cochorn's masterpiece; falls into the Zuiderzee.

2. Several other streams flow through a country so flat, that they are only able to reach the sea by being dammed and canalized through innumerable marshes and lakes; for the provinces of Friesland and Groningen (kingdom of the Netherlands) seem to possess more water than land. Among these streams the most remarkable are: the *Aa*, which passes by STEENWYK, a fortified town taken by the Duke of Parma in 1581, and by Prince Maurice in 1592; the *Lauwer*, which passes by LEEUWARDEN, the capital of Friesland; the *Hunse*, which runs by GRONINGEN, a fortified town, up to which merchant-vessels can sail, and ends in the Lauwerzee.

3. The *Ems* (Amisia) rises in the Egge, runs from south to north, receives the *Ahe*, which runs by MÜNSTER, a large town formerly fortified, celebrated for the treaty of 1648; it passes by MEPPEN, where it receives the *Hase*, which washes OSNABRÜCK,

* See, for the dimensions, population, &c., of these States, the statistical table of Germany.

crosses the Bourtanger Marsh, and ends in the gulf of Dollart, on the right of which lies EMDEN, a very important seaport, and on the left DELFZYL, a Dutch harbour and fortress.—The basin of the Ems is flat, sandy, barren; its lower part is completely covered with marshes, heaths, and bogs.

The coast on the right bank of the Rhine is still lower and more indented than that on the left bank; it is a country that has been almost reclaimed from the sea by the industry of man, and which seems to be entirely built on piles; wonderful dykes, constructed in former ages, and which are constantly being repaired, afford to the inhabitants, their towns and their fields, the sole defence against inundations; life there is, so to speak, quite artificial, for it is perpetually threatened with annihilation. Every storm bursts through some dyke; the inhabitants retreat and build another rampart, which is incessantly mined by the sea, which eventually engulfs this factitious ground. It was thus that the great gulf of *Zuiderzee*, which in former days was only an interior lake (Flevo Lacus), was united to the sea by the giving way of the dykes in 1225; the same was the case with the *Dollart*, which was formed in 1277, &c. These inland lakes are still so numerous, that the canals uniting them are the real roads of the country. Generally speaking, all the coast is sandy, barren, moist; but the fringe of land on each side of the rivers is extremely fertile, owing to the alluvial soil of which it is formed; and as the ancient country is covered with bogs, and is almost everywhere incapable of cultivation, this fringe, which the hand of man has converted into artificial terraces, alone furnishes subsistance to the numerous towns constructed on this coast from mediæval times, and which are indebted for their prosperity to the rich soils brought down by the rivers.—We shall proceed to describe those situated on the sea and near the coast.

1. DELFT, a fortified town, on the canal from Rotterdam to The Hague;—2, THE HAGUE, a large town of 50,000 inhabitants, the second capital of Holland; near it lies RYSWYK, a village celebrated for the treaty of 1698;—3, HAARLEM, an ancient fortress, celebrated for the siege it sustained in 1572;—4, ALKMAAR, in the peninsula of North Holland, which is comprised between the German Ocean, and the Zuiderzee; it is a country intersected in every direction by sand-hills and canals;

it is celebrated for the landing of the British in 1799, who beat Brune at ALKMAAR, were beaten at CASTRICUM and BERGEN, and re-embarked;—5, CAMPERDOWN, battle of 1797, gained by the British over the Dutch;—6, THE HELDER, a seaport defended by two fortresses at the point of the peninsula, facing the island of Texel, and at the entrance of the Zuiderzee; here begins the great canal of 62 miles in length, which goes to Amsterdam, and by which merchant-vessels and ships of war bound for the capital of Holland avoid the Zuiderzee, which is obstructed by sand-banks;—7, NIEUWE DIEP, a naval establishment opposite the harbour and docks of Texel;—8, MEDEMBLIK, a port at the entrance of the Zuiderzee;—9, HOORN, a fortified town, with the best harbour on the Zuiderzee;—10, AMSTERDAM capital of Holland (pop., 260,000), at the bottom of the gulf of the Ij, which communicates with the Zuiderzee; it is divided into two parts by the small river Amstel, and is built on piles on 90 islands; it is one of the busiest trading towns in the world, and the chief seaport of Holland. It can inundate all the surrounding country by its sluices, and has no need of any other defence; it was this that saved it from the conquering arms of Louis XIV.; taken by the French in 1794;—11, MUIDEN, a port at the mouth of the Vecht;—12, NAARDEN, a port on the Zuiderzee, taken by the French in 1672;—13, AMERSFOORT, 12 miles from the Zuiderzee, taken by the French in 1672;—14, HARLINGEN, a fortified seaport.—The entrances to the Zuiderzee are fringed by islands, the remains of the land swallowed up by the inundations of the thirteenth century; the most remarkable is Texel, which has naval establishments founded by Napoleon; in its waters were fought the naval battles of 1653 and 1673. Works are in course of execution for draining this great lake, and constructing a large ship canal from Amsterdam to the sea. —All these coasts belong to Holland.

Political Divisions.—1. The northern provinces of the kingdom of Holland: *North* and *South Holland*, *Utrecht*, *Gelderland*, *Over Yssel*, *Drenthe*, *Friesland*, *Groningen*. As regards the southern provinces, *Zealand* and *Brabant*, they belong to the basin of the Schelde. (See p. 237.)—Teutonic race, Lutheran religion, representative government.

2. The western part of the kingdom of *Hanover*, now annexed to Prussia.

2.—BASIN OF THE WESER.

It is formed: 1, by the eastern sides of the Eggegebirge, the Rothaargebirge, and the Vogelsberg; 2, by the northern sides of the Rhönegebirge and the Frankenwald; by the western sides of the Thüringerwald, the Harz, and the insignificant heights between the Weser and Elbe. General direction, from S.E. to N.W.; length, 250 miles; greatest breadth, 120 miles.

Enclosing Belt of Hills.—1 and 2. The Egge, Rothaar, Vogels, and Rhönegebirge, and the Frankenwald have the same character in the basin of the Weser as in that of the Rhine, where we described them. (See pp. 262, 263.)

3. The *Thuringian Forest* (Thüringerwald), which is given off from the Frankenwald, separates the Werra and the Saale for 50 miles, and its N.E. watershed is generally steeper than its S.W. watershed. It unites by not well-marked heights with the *Harz*, the most northern mountainous country of Germany; it has no perceptible main water-parting; its heights, covered with forests, are thrown together without apparent order, and only separated by narrow valleys almost all running transversely, and forming an inextricable labyrinth. Its length is about 50 miles from S.E. to N.W., and its breadth from 12 to 16 miles; its highest peak is the *Brocken*, 3,657 feet in height, which contains rich mines of silver, copper, and lead. The Harz miners make up a population of 60,000, with a military organization. The Thuringian Forest and the Harz are traversed by several roads: 1, from Eisenach to Erfurt: this is the high road from Leipzic to Mentz, followed by Napoleon in 1813; 2, from Göttingen to Magdeburg; 3, from Hameln to Magdeburg, &c.

Beyond the Harz, the enclosing belt is only indicated by small nameless hills of no importance, as far as the sand-hills of the sea-shore. Roads: 1, from Hanover to Hamburg; 2, from Bremen to Hamburg.

General Aspect.— The basin is a sort of flat gulf covered with heaths and morasses, sandy, barren, except on the borders of the rivers, damp and cold. Cattle and sheep constitute the chief riches of the country; the breed of horses is very fine.

Coasts.—Very low, much indented, marshy, they are only protected from inroads of the sea by the sand-hills and the

dykes; they are fringed with islands formed by the soil brought here by the rivers, and contain no place of any interest.

Course of the River.—It rises in the Frankenwald under the name of the *Werra*, runs N.W., washes HILDBURGHAUSEN and MEININGEN, leaves on its right SCHMALKALDEN, celebrated for the league of the Protestant princes in 1530, washes ESCHWEGE and MÜNDEN; here it unites with the Fulda and takes the name of *Weser* (Visurgis). It then runs north, making numerous turns, leaves on its right HASTEMBECK, battle of 1757, won by the French over the combined British and Hanoverians, passes by HAMELN, fortified town, formerly defended by a fortress, which the French destroyed in 1806; MINDEN, a very strongly fortified town, belonging to Prussia, and which is the key of the Weser; battle of 1759, when the French were beaten by the British and Hanoverians. It here opens up a passage, called the *Gate of Westphalia*, through some small hills, 984 feet high; passes by NIENBURG, formerly fortified, now dismantled; BREMEN, a free town with a great trade; population, 60,000. At a distance of 30 miles from this town it falls into the sea by a very wide mouth; but as its depth is not great, and it is much obstructed by sand-banks, the navigation for large vessels stops 10 miles below Bremen. Its course is 300 miles in length. It forms great deposits of soil, and is liable to inundations, which are kept within bounds by dykes.

Considered as an intermediate line betwixt the Rhine and the Elbe, the Weser is of very secondary importance, because it can be turned by the Main; considered as a means of communication betwixt Upper and Lower Germany, it is of still less use, because as its southern mountain belt does not belong to the great European water-parting, it is only connected with the Danube through the medium of the Main; hence its importance is limited to operations carried on in Lower Germany.

Tributaries on the Left.—1. The *Fulda* rises in the Rhönegebirge, washes FULDA, formerly a sovereign abbacy, which played a great part in the middle ages;—CASSEL, formerly the capital of the kingdom of Westphalia, and ends after a course of 100 miles.

2. The *Diemel* washes WARBURG, formerly a fortress, and receives a tributary which flows by WILHELMSTAD, battle of 1762,

when the French were beaten by the Hanoverians. This river is celebrated in the operations of the Seven Years' War.

3. The *Hunte* flows by OLDENBURG, capital of the Grand Duchy of that name, a fortified town and good port.

Tributaries on the Right.—1. The *Nesse* passes by Eisenach, near which is the ruined castle of *Wartburg*, whither Luther retired in 1521 ; it receives a tributary that passes by GOTHA.

2. The *Aller* rises in the last spurs of the Harz, runs from S.E. to N.W., does not wash any remarkable place in a course of 124 miles, and ends below VERDEN.—It receives numerous tributaries: 1, the *Ocker*, which runs from south to north, washing WOLFENBÜTTEL and BRUNSWICK, capital of a duchy belonging to the most ancient reigning family in Germany; 2, the *Leine*, which runs from south to north parallel with the Weser, washing GÖTTINGEN, celebrated university; HANOVER, capital of the kingdom of Hanover, incorporated with Prussia since 1866.

3. The *Geeste*, at the confluence of which lies BREMERHAFEN, a harbour excavated in order to avoid the obstructions of that of Bremen, and situated near a fortress built to defend the entrance to the Weser.

Political Divisions.—1. Duchies of *Saxe Coburg Gotha* and *Saxe Meiningen*, capitals Gotha and Meiningen; Teutonic race, Lutheran religion, representative monarchies.—2. Electorate of *Hesse Cassel*, capital Cassel, Teutonic race, Calvinist religion, annexed to Prussia in 1866.—3. Principality of *Waldeck*, capital Corbach, Teutonic race, Lutheran religion, representative monarchy.—4. Part of Prussia, provinces of *Westphalia* and *Saxony*. —5. Duchy of *Brunswick*, capital Brunswick, Teutonic race, Lutheran religion, representative monarchy.—6. Kingdom of *Hanover*, capital Hanover, Teutonic race, Lutheran religion, annexed to Prussia in 1866.—7. Principalities of *Lippe Detmold* and *Lippe Schauenburg*, capitals Detmold and Bückeburg, Teutonic race, Lutheran religion, monarchy with representative chambers.—8. Grand Duchy of *Oldenburg*, capital Oldenburg, Teutonic race, Lutheran religion, monarchical government.—9. Free town of *Bremen*, Teutonic race, Lutheran religion, democratic government. All these countries belong to the North German Confederation.

3.—BASIN OF THE ELBE.

This basin is formed: 1, by the eastern side of the small hills between the Weser and Elbe, of the Harz mountains, of the Thüringerwald, and of the Frankenwald; 2, by the northern side of the Böhmer Wald, and by the Moravian mountains, which belong to the great European water-parting; 3, by the western side of the Giant Mountains (Riesen Gebirge), and of the unimportant heights between the Elbe and Oder. General direction, from S.E. to N.W.; length, 447 miles; breadth, 174. It is divided into two perfectly distinct basins: the upper, a plateau in the midst of mountains; the lower, quite a level country, and twice the extent of the upper.

BASIN OF THE UPPER ELBE.

This is a kind of quadrilateral excavated by the Elbe and Moldau, a sort of circus whose interior is covered by ramifications from the surrounding mountains, which gradually decline in height towards the centre. The two southern sides of this quadrilateral are formed by the Bohemian Forest and the Moravian mountains.

1. The *Bohemian Forest* (Böhmer Wald) starting from the Ochsenkopf, runs from N.W. to S.E. for 150 miles, separating Bohemia from Bavaria, and the basin of the Elbe from that of the Danube. Its steepest part is at the S.W., and its greatest thickness at the N.E. Its highest peak, the *Arber*, attains an elevation of 4,857 feet; it stands near the sources of the Regen and Angel. These mountains are mostly covered with forests, have a wild appearance, and are crossed by but few roads: 1, from Amberg to Eger; 2, from Regensburg to Pilsen, followed by the Archduke Charles in 1809; 3, from Linz to Budweis by the defile of Freystadt. Between the two last-named nothing but some bridle-paths are to be met with for 100 miles.

2. The *Moravian Mountains* (Mährische Gebirge) join the last-named near the depression where the road from Linz to Budweis passes; they run from S.W. to N.E. for 150 miles, separating the basin of the Elbe from that of the Danube, and Bohemia from Moravia; they possess similar characters and

height to the Böhmer Wald; their highest peak, *Hochwald Berg*, has an elevation of 3,366 feet. Principal roads: 1, from Vienna, by Horn and Tabor, to Prague; 2, from Vienna, by Znaym, Iglau, and Kollin, to Prague; 3, from Olmütz, by Leutomischl, to Czaslau and Prague.

The two northern sides of the quadrilateral are formed by the Giant Mountains and the Mineral Mountains.

1. The *Giant Mountains* (Riesen Gebirge) are united with the Moravian Mountains by the *Schneeberg* (4,784 feet), nucleus of mountains analogous to the Ochsenkopf, whence streams run in every direction; the Morava (or March), southward to the Danube; the Oppa, eastward to the Oder; the Neisse, northward to the Oder; the Adler westward to the Elbe. They run from S.E. to N.W. for 124 miles, separating the basin of the Upper Elbe from those of the Lower Elbe and Oder, and Bohemia from Silesia and Saxony. Towards their middle they present some very wild groups; their mean breadth is about 30 miles, and at the *Riesenkoppe* (or *Schneekoppe*) they attain a height of 5,389 feet; this is the highest peak in all the interior of Germany. Their most western part, that which ends at the Elbe, is called the *Lusatian Mountains*, and these are not more than from 2,000 to 2,300 feet high. They are a collection of broken heights, among which the river formerly flowed, and they form the picturesque country called *Saxon Switzerland*. Principal roads: 1, from Glatz to Josephstadt; 2, from Görlitz, by Zittau, Gabel and Jungbuntzlau, to Prague; 3, from Dresden, by Stölpen, Romburg, and Böhm Leipa, to Prague. All these roads are difficult, intersected by defiles and ravines, and were very celebrated in the Seven Years' War and the campaign of 1866.

2. The *Mineral Mountains* (Erz Gebirge) are connected with the last-named on the Elbe at Schandau, the river having cut through the hills in order to pass into its lower basin; they run for 100 miles from N.E. to S.W., separating the upper and lower basins of the Elbe, and Bohemia from Saxony. Their loftiest peak is 3,900 feet high. They offer the same characters as the Riesen Gebirge, contain much mineral wealth, and are crossed by numerous but difficult roads, celebrated in the wars between North and South Germany. The principal are: 1, from Dresden, skirting the left band of the Elbe to Prague: it is a railway;

2, from Dresden by Peterswald, Culm, Töplitz, and Laun to Prague; it was on this road that Vandamme in 1813 ought to have prevented the allies, beaten at Dresden, from entering Bohemia; but he was overpowered by them at Culm and taken with all his corps d'armée; 3, from Zwickau to Carlsbad; 4, from Hof to Eger.

General Aspect.—This basin is in general badly cultivated, scantily peopled, and offers few resources; it has, however, immense forests, large iron mines, horses renowned for war purposes. Its roads are few in number and bad; their total length does not exceed 870 miles. There are few countries whose defence is easier; its forests, mountains, and rivers, offer an endless series of obstacles.

Course of the River.—The *Elbe* (Albis) rises in the Riesen Gebirge, about the middle of the chain, at a height of about 4,539 feet; it runs from north to south in a narrow and wild valley, washes KÖNIGINHOF, battle of 1866, when the Prussians beat the Austrians;—JAROMIRZ, the locality of another Prussian victory over the Austrians in 1866;—JOSEPHSTADT, a fortress situated at the issue of the roads from Silesia;—KÖNIGGRÄTZ, a town formerly fortified, near which, on a small tributary brook, is SADOWA, battle of 1866, where the Prussians defeated the Austrians; it then flows from S.E. to N.W., leaving on its left CZASLAU, on the road from Olmütz to Prague, battle of 1742, gained by Frederick over the Austrians; washes KOLLIN, battle of 1757, where Frederick was beaten by Daun;—MELNIK, where it receives the Moldau;—LOWOSITZ, an important position at the issue of the roads from Töplitz and Dresden to Prague, battle of 1756, where Frederick defeated the Austrians. Finally, it enters the hills, whence it emerges by a very narrow cutting at SCHANDAU, betwixt two walls, 2,296 feet high, formed by the meeting of the Erz and Riesen Gebirge, which would lead us to infer that before the Elbe pierced this barrier, Bohemia was was one vast lake.*

Tributaries on the Left.—1. The *Aupa* rises in the Schneekoppe, washes TRAUTENAN, battle of 1866, lasting two days, in which the Prussians beat the Austrains; it ends at Jaromirz.

* See *Physical Geography*, p. 11.

2. The *Moldau* rises in the Böhmer Wald, flows first S.E. parallel to that chain, in a very wild valley, and on reaching ROSENBERG turns abruptly northwards; it continues in this direction to its termination, washing BUDWEIS, an ill-fortified town at the issue of the road from Linz to Prague;—PRAGUE, the capital of Bohemia, in the centre of the upper basin of the Elbe, and at the point of convergence of all its roads, in an admirable position on both banks of the Moldau, which it skirts for 4 miles; it has a population of 120,000. This town has undergone seven sieges, the most celebrated of which is that of 1742, sustained by the French. Battle of 1620, when the Bohemian Protestants were beaten by the Imperialists; battle of 1757, when Frederick beat Marshal Daun.—The Moldau falls into the Elbe at Melnik; it is the larger of the two, in the length of its course, the volume of its water, and the number of its tributaries, the chief of which are; 1, the *Luschnitz* (on the right), which is skirted by the road from Vienna to Prague, as far as TABOR, celebrated as the locality of the Hussite camp in 1419, and the battle of 1648, gained by the Swedes over the Imperialists; 2, the *Watawa* (on the left), which flows by STRAKONITZ and PISEK; 3, the *Beraun* (on the left), which passes near PILSEN, centre of the roads from Bavaria to Prague, and BERAUN.

3. The *Eger* rises in the Ochsenkopf; passes near EGER, a town defended by an old castle, celebrated by the death of Wallenstein, and by the retreat of the French in 1742; it is skirted by the road from Baireuth to Prague, as far as ELBOGEN, at one time a strongly fortified town with a half-ruinous citadel; passes near CARLSBAD, renowned for its small-arms manufactories and its mineral waters, and terminates near THÉRESIENSTADT, a small fortress. Its direction is from west to east; it is shut in on the north by a large branch detached from the Erzgebirge, which ends on the Elbe at Lowositz.

Tributaries on the Right.—1. The *Cudlina* rises in the Riesengebirge, flows from north to south, washing GITSCHIN, taken by the Prussians in 1866, and ends above NIMBURG;—2, the *Iser* rises in the Riesen Gebirge, flows from north to south through a very wild valley, washing TURNAU, MÜNCHENGRÄTZ, battles of 1866, when the Prussians beat the Austrians; JUNGBUNZLAU,

centre of the three roads from Lusatia into Bohemia; it is skirted by the prolongation of these roads to Prague, and ends at ALTBUNZLAU.

Political Divisions.—This basin comprises almost the whole of the kingdom of Bohemia, the central country of Europe with the best natural boundaries; it is a dependency of the Austrian empire, whose advanced post in North Germany it forms. It is a Slavonic country, where out of a population of 4,800,000, there are not more than 900,000 Germans, and where the memorials of the Hussite and Thirty Years' War are deeply engraven. Lying in the middle of Germany, of which it is, as it were, the redoubt, Bohemia resembles a vast entrenched camp of mountains and fortresses, whence an army may be thrown in every direction against Poland, Prussia, France, and Bavaria; hence it played a conspicuous part in the Thirty Years' and the Seven Years' Wars, in 1813, and in 1868, lying as it does between the theatre of war in North and South Germany. As a portion of the Austrian Empire, it is an eccentric work; but if it obstructs communication betwixt operations in Saxony and on the Danube, it becomes of great importance when the operations are confined to Saxony, on account of the direction of the Elbe whose sources it possesses, and where it is covered by the Mineral and Giant Mountains; it then becomes an immense bastion, from which the Oder and the lower Elbe may be turned in security. It was thus the Imperialists manœuvred against Gustavus Adolphus, and still more clearly the Austrians against Frederick the Great; taking advantage of the projecting configuration of Bohemia at the centre of all the operations, they massed their troops concentrically on the Elbe, under cover of the Giant Mountains, and threw themselves at will into Saxony or Silesia; they could only be turned by Moravia; and in fact it was by this side that Frederick, supported by the fortresses of the Oder, made his attacks, whilst the line of Saxony brought him no farther than Prague, and that of Lusatia was impracticable by the mountains. It was this projecting position of Bohemia that in 1813 proved fatal to Napoleon, when he was fighting against Prussia and Russia on his front, and had Austria on his right flank; if he left his central position at Dresden to march against the Russians on the Oder, the Austrians would

sally forth by the left of the Elbe and cut off his communications with the Rhine; if he manœuvred on Bohemia, as soon as he passed the mountains the allies would cross the Elbe and prevent his return; hence, after having, by his victory at Dresden, retarded for a time the union of the three armies that attacked him from the north, east, and south, he ended by being overwhelmed at Leipzig.

In invasions of the basin of the Danube Bohemia has always been of but minor importance, in consequence of the course of the river being from west to east, and because its left bank, as we shall see below, usually remains exempt from the operations of war. Still it may be of use to the Austrians as a sort of redoubt whence they may make sorties on the left of the invading army; and Archduke Charles always held that in this way it was the best defence of the hereditary Austrian states, by affording a means of issuing forth on Regensburg and Nürnberg, and thus forcing an army which should be marching on the Inn to turn towards the Danube. This was doubtless the manœuvre he wished to put in execution in 1809, when the orders from his court compelled him to abandon Bohemia in order to throw himself upon the right bank of the Danube, when he lost the battles of Abensberg and Eckmühl. (See Basin of the Danube.) In this very campaign Bohemia twice served him as a retreat in order to recruit his army: after the battle of Regensburg (Ratisbon), he retired thither and marched thence to succour Vienna; after the battle of Wagram, he again retreated to this stronghold, when the treaty of Znaym put a stop to hostilities. In the campaign of 1866 the Austrians failed to defend the easily defensible passes of the Riesengebirge against the Prussian armies, and the crushing victory of Sadowa laid the whole empire at the mercy of the Prussians.

BASIN OF THE LOWER ELBE.

This basin has no enclosing heights except on the south, where they are formed by the Mineral and Giant Mountains, and on the S.W., where the Harz Mountains separate it from the upper Weser; on the east we find nothing but insignificant heights; the level nature of the country here has allowed of the construction of many canals betwixt the Elbe and Oder. Roads:

1, from Dresden by Bautzen, Hohenkirch, Görlitz, Buntzlau, Liegnitz, and Lissa, to Breslau; almost all these places are celebrated by battles: it is the route followed by the French in 1813, when marching forward and when retreating: railway; 2, from Dresden to Berlin by Herzberg and Gross Beeren: railway; 3, from Wittenberg to Berlin by Dennewitz; 4, from Wittenberg to Berlin by Gross Beeren; 5, from Magdeburg to Berlin, and thence to Frankfort on the Oder: this was the line of march of the French in 1806: railway; 6, from Magdeburg by Zehdenik and Prenzlow to Stettin: this was the line of the retreat of the remains of the Prussian army in 1806; 7, from Hamburg to Lübeck, and thence by Schwerin and Anklam to Stettin.

General Aspect.—It is a country consisting almost entirely of plains and sands, covered with forests, marshes, and small lakes; it is not very fertile, but well cultivated, thickly peopled, and opened up by numerous roads. Those which connect the Elbe with the Main and the Upper Weser are of special importance, as they open communications from the Rhine into Saxony; they have already been partially indicated in the Basins of the Main and Weser. We now give them in their total length: 1, from Frankfort by Hanau, Würzburg, Bamberg, Baireuth, Hof, Zwickau, Chemnitz, and Freiberg, to Dresden; 2, from Frankfort by Hanau, Fulda, Eisenach, Gotha, Erfurt, Naumburg, Lutzen, Leipzig, and Wurzen, to Dresden: this was the line of the retreat of the French in 1813.

Coasts between the Mouths of the Weser and Elbe.—They offer the same character as the preceding: flat, sandy, barren, they contain no remarkable place except CUXHAVEN, a port at the mouth of the Elbe belonging to Hamburg. A few islands fringe it: the most remarkable is *Heligoland*, a barren rock where the British, during the wars of the Empire, made a dépôt of arms and merchandise, and which they have kept and fortified.

Course of the River.—On issuing from the mountains the Elbe flows almost directly N.W. and enters Saxony, where it washes KÖNIGSTEIN, a fortress on a rock, at a height of 852 feet above the river and 1,187 feet above the sea, a position of great value, for penetrating into Bohemia, and by which Vandamme debouched in 1813, in order to fall upon the allies, who

were before Dresden. Skirted on its right by wooded hills, it next passes PIRNA, an entrenched camp, where Frederick surprised the Saxon army in 1756, and near which is MAXEN, where the Austrians beat the Prussians in 1759; it then washes PILNITZ, a castle celebrated by the conferences of 1791;—DRESDEN, capital of the kingdom of Saxony, with an arsenal, a cannon foundry, a military school, &c., centre of all the roads of Saxony, population, 128,000. This town is divided into two parts by the river; on the left bank is the old town, which the allies attacked in 1813, betwixt the roads from Freibreg and Bohemia and the defile of Tharand, where they were beaten by Napoleon; Dresden was at that time the central position whence the French guarded the Elbe while threatening the Oder and Bohemia; its capture would have broken their communications with the Rhine. —The river next washes MEISSEN, where the road from Leipzig to Dresden passes; it leaves Saxony and enters Prussia, where it bathes MÜHLBERG, celebrated by the victory of Charles V. over the Protestants in 1547;—TORGAU, a fortress on the left bank; battle of 1760, when Frederick defeated the Austrians; taken by the French in 1806, and retaken from them in 1813;—WITTENBERG, a fortress taken by the French in 1806, and in which they were besieged in 1813;—DESSAU, at the confluence of the Muldo;—MAGDEBURG, a first-class stronghold, ruined in 1630 by the Imperialists, taken by the French in 1806, and in which they were besieged in 1813. Thence it flows almost due north as far as the confluence of the Havel, where it resumes its N.W. direction; it leaves Prussia proper, and separates Hanover from Mecklenburg and Holstein; washes LAUENBURG, below which it divides into several arms, which enclose large and fertile islands;—HARBURG (left bank), a fortified town, with a citadel commanding the river;—HAMBURG (right bank), free town, with a population of 166,000, one of the busiest and richest commercial towns in Europe; it formed part of the French Empire in 1810, and underwent a long siege in 1813; it is now regarded as one of the bulwarks of Germany, and is garrisoned by the Prussians. Then the Elbe, which with its islands and channels is upwards of 10 miles wide, leaves on its right ALTONA, a Holstein town that looks like a suburb of Hamburg; GLÜCKSTADT, capital of Holstein; it attains a width of 4 miles,

which increases more and more as far as Cuxhaven, and ends by a mouth 9 miles broad. Its whole length is 423 miles; the influence of the tide is felt for 25 miles.—In a military point of view this river is a formidable barrier to an invasion from the North; it can only be turned by Bohemia; its three centres of defence are Dresden, Magdeburg, and Hamburg; Saxony, from its position between the Lower Elbe and Bohemia, is the key of all its course; accordingly this country has always been ardently coveted by Prussia, into whose hands the events of 1866 have practically delivered it.

Tributaries on the Left.—1. The *Mulde* rises in the Erzgebirge, and runs from south to north, washing SCHNEEBERG, famed for its silver mines;—ZWICKAU, where the roads from Leipzic into Bohemia and from Dresden into Bavaria cross one another. It receives on the right a tributary of the same name, which flows by FREIBERG, battle of 1762, won by Frederick over the Austrians. It next washes WURZEN, road from Leipzig to Dresden;—EILENBURG, road from Leipzig to Torgau; DÜBEN, road from Leipzig to Wittenberg;—DESSAU, where it falls into the Elbe. Parallel to the Elbe, it is not a defensible line, and all that can be done is to prepare here the means for concentrating troops on the next river.

2. The *Saale* rises in the Ochsenkopf and flows from south to north, washing HOF, at the issue of the roads from the Main and Eger; it leaves on its right SCHLEIZ, chief town of one of the principalities of Reuss;—SAALFELD, where the first battle of the campaign of 1806 was fought;—RUDOLSTADT, chief town of one of the principalities of Schwarzburg;—JENA, battle of 1806, won by Napoleon over the Prussians; DORNBURG;—KÖSEN, a formidable defile not far from the confluence of the Unstrutt, on the road from Erfurt to Leipzig, by which the Prussian army retreated in 1806, when it was stopped by Davoust;—NAUMBURG, where Davoust crossed the river to seize Kösen;—WEISSENFELS, which possesses a very important bridge on the Leipzig road. It skirts the defile of *Ripach*, where Bessières was killed in 1813; washes MERSEBURG, celebrated in the campaigns of 1757 and 1813;—HALLE, a town of importance on account of its roads, battle of 1806, won by Bernadotte over the Prussians;—BERNBURG, capital of the duchy of Anhalt-Bern-

burg, defended by a castle; it ends above Barby.—This river, lying behind the Harz and in front of the Elbe, is very important for the defence of either of these lines; this is proved by the great number of battles fought in its basin. This importance is increased by that of its tributaries, the chief of which are:—

1. The *Ilm*, which flows by WEIMAR, capital of the duchy of Saxe Weimar Eisenach, and near whose confluence lies AUERSTADT, battle of 1806, won by Davoust over the King of Prussia; —2, the *Unstrutt*, which rises in the Harz, flows from west to east, passes on the right LANGENSALZA, battle of 1866, when the Hanoverians beat the Prussians, but being surrounded by superior forces were compelled to surrender soon afterwards; it next washes FREIBURG; then leaves on its left ROSSBACH, battle of 1757, where Frederick the Great defeated the united French and German armies, ends opposite Naumburg, after receiving several streams; the most important of these is the *Gera*, which flows by ERFURT, a Prussian fortress with two citadels, at the issue of the roads from the Harz, and closing the road from Leipzig; taken by the French in 1806, and where they were besieged in 1813; famed for the interview of Napoleon and Alexander in 1808;—3, the *Elster* rises in the Erzgebirge, runs from south to north, washes GERA, whence runs a road that leads to Jena by some very difficult mountain passes, and which was that taken by the French in 1806; it was on this point that Napoleon performed his wheeling movement by the right, in order to turn the Prussians and fight them at Jena. The river then washes ZEITZ; then PEGAU, by which the Prussians debouched in order to fight the battle of Lutzen. It is skirted by a road leading to Leipzig, and throws off a long derivative, the *Floss Graben*, which runs parallel with it throughout the remainder of its course; this derivative runs by LÜTZEN, a very remarkable position on the road from Leipzig to Erfurt, battle of 1632, between the Swedes and the Imperialists, in which Gustavus Adolphus was killed; battle of 1813, won by the French over the Russians and Prussians. Finally, the Elster reaches LEIPZIG, the west side of which it bathes with its embanked and muddy waters, giving off derivatives, the principal of which passes by LINDENAU, on the road from Leipzig to Lutzen.—Leipzig is a large town of 85,000 inhabitants, one of the busiest commercial towns in Europe; the point of meeting of

ten roads, it is a highly strategic position in the rear of the Elbe; it has a square enceinte with several large suburbs surrounded by walls, defensible on the east and north, and it is opened by five gates: that on the west leads into the suburb of Ranstädt, a defile 2¼ miles long, which crosses all the channels of the Elster and is the road to Lutzen. In this defile was situated the celebrated bridge which was blown up too soon after the great battle of 1813, causing the loss of 30,000 French; this battle lasted three days and compelled the French to retreat to the Rhine by the road from Leipzig to Frankfort.—Above Leipzig, the Elster receives the *Pleisse*, a marshy river parallel to it, on the right of which lies WACHAU, first day (16th October) of the battle of Leipzig, where Napoleon beat the Austrians. Below Leipzig, the Elster receives the *Partha*, a small embanked stream, on the north of which lies MÖCKERN, first day of the battle of Leipzig, where Marmont was beaten by the Prussians. It was in this very obtuse angle comprised between the Pleisse and Partha, at the apex of which lies Leipzig, that the third day's battle was fought (18th October); Napoleon's line of battle was in the form of a semicircle around this town, his right at CONNEWITZ, on the Pleisse, his left at SCHÖNEFELD, on the Partha.—On the north of Möckern the Elster passes near BREITENFELD, the locality of the battle of 1630, gained by Gustavus Adolphus over the Imperialists, and also celebrated in the battle of 1813. It terminates above Halle.

3. The *Ilmenau* passes by LUNEBURG, a badly fortified commercial town.

4. The *Schwinge* passes by STADE, a fortified town.

5. The *Oste* runs by KLÖSTER ZEVEN on the road from Bremen to Hamburg, where the French compelled the Hanoverians to surrender in 1757.

Tributaries on the Right.—The *Black Elster* runs parallel to the Elbe, and washes ELSTERWERDA.

2. The *Havel* is a marshy river, which rises in the Mecklenburg lakes; it runs from north to south, washes TEMPLIN and ZEHDENICK, famed in the campaign of 1806;—SPANDAU, a first-class fortress, with a manufactory of arms; taken by the French in 1806. There it turns westwards, forming lakes and morasses; washes POTSDAM, situated on an island, with a manufactory of

arms and a royal palace;—BRANDENBURG;—RATHENAU, battle of 1675, won by the Prussians over the Swedes. It ends below HAVELBERG, and receives two tributaries on the left: 1, the *Spree* rises in the Riesengebirge, passes near HOHENKIRCH, battle of 1758, where Frederick, beaten by the Austrians, retreated in good order before them; it was on the same ground and by similar manœuvres that the allies, defeated at Bautzen, retreated without loss. Thereafter it receives a brook that passes by BAUTZEN, an excellent position resting on the rounded knolls of Kleinbautzen and Krekewitz, which served as places of refuge to Frederick after the surprise of Hohenkirch, and as principal points of defence to the allies in the battle of 1813. It then forms lakes, channels, islands, approaches towards the Oder, with which it is connected by artificial channels, turns to the west, and reaches BERLIN, capital of the kingdom of Prussia (population, 632,000), with a large arsenal, a military school, military workshops, a cannon foundry, &c., taken by the French in 1806. It joins the Havel at Spandau;—2, the *Nuthe* rises near DENNEWITZ, battle of 1813, in which Ney was defeated by Bernadotte; it leaves on its right GROSS BEEREN, battle of 1813, in which Oudinot was beaten by Bernadotte, and ends at Potsdam.

3. The *Elde* issues from the Mecklenburg lakes, receives the Stoer, which issues from the lake in which lies SCHWERIN, capital of the Grand Duchy of Mecklenburg Schwerin, and terminates near the fortress of DÖMITZ.

Political Divisions. — The lower basin of the Elbe contains:—

1. The kingdom of *Saxony*, capital Dresden. This kingdom, created by Napoleon in 1806, out of the old Electorate of Saxony, enlarged by the addition of portions of Prussia and Poland, was in 1814 reduced to very narrow limits, in order to punish the King of Saxony for his fidelity to France. The Saxons are of Teutonic race, profess the Lutheran religion, and have a monarchical government with representative chambers.

2. The Grand Duchy of *Saxe Weimar Eisenach*, capital Weimar; Teutonic race, Lutheran religion, monarchical government with representative chambers.

3. The duchy of *Saxe Altenburg*, capital Altenburg; Teutonic race, Lutheran religion, monarchical government with chambers.

4. The central part of the kingdom of Prussia, comprising the province of *Brandenburg*, capital Berlin, the nucleus of the Prussian monarchy, and the province of *Saxony*, capital Magdeburg, taken from the kingdom of Saxony in 1814.

5. The principalities of *Anhalt Dessau Cöthen* and *Anhalt Bernburg*, now united under one sovereign, with the name of *Anhalt* only; Teutonic race, Lutheran religion, absolute monarchy.

6. The principalities of *Schwarzburg Sondershausen* and *Schwarzburg Rudolstadt*; Teutonic race, Lutheran religion, absolute monarchies.

7. The principalities of *Reuss Schleiz* and *Reuss Greiz*; Teutonic race, Lutheran religion, monarchies with representative chambers.

8. The free town of *Hamburg*; Teutonic race, Lutheran religion, democratic republic.

9. The southern part of the duchy of *Lauenburg*, ceded by Denmark to Austria and Prussia in 1864, and by Austria and Prussia in 1865.

10. The eastern part of the late kingdom of *Hanover*.

All the States in the basin of the Lower Elbe now belong to the North German Confederation under Prussia.*

§ IV.—DANISH PENINSULA AND ISLANDS.

Peninsula.—The tract of country separating the Elbe and Oder throws out towards the north, between the German Ocean and Baltic Sea, a peninsula, which is bounded on the south by the Stör and the Trave, and whose extreme length is 248 miles, and breadth 87 miles. In shape it is a rectangle, very much indented by bays and peninsulas, low, marshy, studded with lakes and small streams, where the water-parting is imperceptible; the highest level of which is not above 656 feet, and the shores of which are only protected from the inroads of the sea by sand-hills and artificial works. The climate is moist and mild; the country, fertile and pastoral, produces excellent horses, and on its eastern part abounds in large forests.

The Danish Peninsula (Chersonesus Cimbrica) is politically

* For the dimensions, populations, &c., of these States, *vide* the statistical tables.

divided into *Holstein*, in the south, the most fertile part; *Slesvig*, in the middle, the narrowest part; and *Jutland*, in the north, the most watery part. The last-named is divided from east to west by a long and tortuous arm of the sea, which forms of the northern extremity a sort of island very curiously indented. In addition to this natural canal there are other artificial ones which connect the Baltic with the German Ocean; the most remarkable is that which ends at Kiel on the Baltic by the river *Eider*, the only river of any importance; it is defended near that town by the fortress of FREDERIKSHORN. On this canal stands RENDSBURG, the strongest fortress in the peninsula.

The chief ports are: 1, LÜBECK, a free town with a population of 31,000, the ancient capital of the Hanseatic League, once important and thriving; is situated on the *Trave*, a tortuous and difficult stream, which is connected with the Elbe by a canal; it was stormed in 1806 by the French, after a battle where Blücher capitulated with the remains of the Prussian army;—2, KIEL, in Holstein, a good port on the Baltic;—3 and 4, FLENSBURG and SLESVIG in Slesvig, and on the Baltic;—5, AALBURG, in Jutland, on the great northern canal.

Islands.—In the Baltic, on the east of the peninsula, are some large islands, separated from one another by channels varying in depth from 49 to 98 feet, and obstructed by sand banks:—

1. FUNEN or FYEN, separated from the Peninsula by the strait of the Little Belt; its capital is ODENSEE.

2. ZEALAND or SJALLAND, separated from Funen by the strait of the Great Belt, and from the Swedish Peninsula by the strait of the Sound. The towns are:—1, COPENHAGEN (Kiöbenhavn), capital of the Danish States, a large town of 155,000 inhabitants, defended by twenty-five bastions and the citadel of Frederiksborg, in addition to the advanced fort of Three Crowns, a first-class work, lying at a distance of 9,840 feet from the town; it was in front of this fort that the naval battle of 1801 was fought, when the English defeated the Danes. The town is built partly on the north side of the small island of Amak, partly on the east side of Zealand; these two islands are separated by a small arm of the sea, which forms a magnificent harbour, the station of the Danish fleet. It was bombarded in 1807 by the English;—2, ELSINORE (Helsingor), in the north of this island, in the narrow-

est part of the Sound; very important on account of this narrow strait, and defended by the great fortress of KRONBORG.

The other islands are *Falster* and *Laaland*, on the south of the two first-named, and *Bornholm* on the east.

The Danish Peninsula and islands, with the archipelago of the Faroe islands to the north of the British islands, and Iceland on the N.E. of America, constituted the Danish monarchy from 1814 to 1864; this, with some colonial possessions, was all that remained to this power, which in the twelfth century ruled over the Baltic; in the thirteenth, possessed Pomerania, Prussia, Livonia, Holstein, &c.; in the fourteenth, reigned over Norway and Sweden; in the fifteenth century, the only exterior possession she had was Scandinavia; in 1523 she lost Sweden, except its most southern part, which was only lost to the Danish sceptre in 1660; finally, Norway was taken from her in 1814, as a punishment for her fidelity to Napoleon. As Duke of Holstein and Lauenburg, the King of Denmark was a member of the German Confederation. Reduced to the limits and the population of a third-class State, Denmark still maintained a considerable rank in Europe, by the character of its inhabitants, its civilization, its navy, and especially by the memory of its historical fame; but it has recently been humiliated to such a degree that its very existence is endangered: the inhabitants of Holstein and Slesvig being chiefly of German race, and wishing to shake off the Danish yoke, the whole of Germany attacked the little kingdom and despoiled it of Holstein, Slesvig, and Lauenburg, that is to say, of a third of its population, which is now reduced to 1,600,000 inhabitants. Prussia has since managed to oust her allies from the duchies and to appropriate them to herself.

The Danes are of Scandinavian race, Lutheran religion, and their government is a constitutional monarchy.*

* For the population, dimensions, &c., of the Danish monarchy, see the statistical table.

§ V.—WATERSHED OF THE BALTIC SEA.

1.—BASIN OF THE ODER.

This basin is formed: 1, by the eastern side of the heights between the Elbe and Oder, and of the Riesen Gebirge; 2, by the northern side of the Sudetic mountains; 3, by the western side of the elevations which are little more than mere undulations between the Oder and Vistula. General direction, from S.E. to N.W.; length, 350 miles; breadth, 210.

Encircling Mountains.—1. The Riesen Gebirge throw off to the north very confused spurs, the largest of which runs between the Neisse and the Bober, under the name of *Owl Mountains* (Eulen Gebirge), and they are united to the *Sudetic Mountains* by the Schneeberg.

2. The *Sudetic Mountains* belong to the line of the great European water-parting, and run from N.W. to S.E., forming numerous elbows, for a length of 100 miles, as far as the source of the Oder; their general height is from 3,000 to 4,000 feet, and they present the same characters as the Riesen Gebirge, a prolongation of which they seem to be. Principal roads: 1, from Breslau, by Freudenthal, to Olmütz; 2, from Troppau to Olmütz, railway; 3, from Teschen to Olmütz. These roads are celebrated in the Silesian campaigns of Frederick the Great.

3. The eastern belt is formed first by a branch which runs between the sources of the Oder and Vistula, and soon afterwards by mere knolls, which scarcely indicate the direction of the streams, and which become plains as they approach the sea. Roads: 1, from Teschen to Cracow; 2, from Breslau to Warsaw; 3, from Frankfort on Oder, by Posen, to Warsaw; 4, from Stettin to Dantzic.

General Aspect.—It is a flat marshy country, covered on its southern part by great forests, and on its northern part by moors, heaths, and lakes. The climate is generally cold and moist, the land not fertile, and rich only in woods and pasturage; it is well cultivated and inhabited by an active and industrious population.

Coasts.—They are formed of deposits of sand, where the waters of the rivers, having no slope, are collected into lakes. On them lie WISMAR, a good port, taken by the French in

1806;—Rostock, a good port, at the mouth of the Warnow, which is defended by the fortress of Warnemund;—Stralsund, a very strong fortress, in the midst of a morass, celebrated in all the Pomeranian wars; taken by the French in 1807; important on account of its harbour and arsenal. Opposite, and separated from it by a channel one mile wide, is the island of Rugen, very much indented, good pasturage; taken by the French in 1807.—On the N.E. of the Oder the only remarkable place is Colberg, a fortified town.

Course of the River.—The *Oder* (Suebus) rises in that part of the Sudetic Mountains, called the *Geisenker Gebirge*, flows from S.E. to N.W., through large and magnificent forests, washes Ratibor, defended by an old castle;—Kosel, a small stronghold, taken by the French in 1807;—Oppeln, defended by an old castle;—Brieg, formerly fortified, taken by the French in 1807; near it is Molwitz, battle of 1741, won by Frederick over the Austrians. Thereafter the river bathes Breslau, formerly a fortified stronghold, capital of Silesia, pop., 180,000; battle of 1757, won by the Austrians over the Prussians; taken by the French in 1807;—Glogau, a fortress taken by the French in 1807. After this it inundates, undermines, and is constantly altering its low and sandy banks, forms immense marshes, muddy lakes, numerous islands; it passes near Züllichau, lying on the road from Krossen to Posen, where was fought the battle of Palzig in 1759, won by the Russians over the Prussians; washes Krossen, situated at the confluence of the Bober;—Frankfort, a town formerly fortified, near which is the village of Kunersdorf, on the Posen road, battle of 1760, where the Russians beat the Prussians;—Küstrin, a fortress on an island in the midst of marshes, at the confluence of the Wartha, taken by the French in 1806; near it, between the two rivers, is Zorndorf, battle of 1758, where Frederick beat the Russians. The Oder then passes by Garz, where it divides into two great arms, which form a multitude of islands and channels; the eastern arm is the most navigable, and is called the *Reglitz;* the western arm retains the name of Oder; they reunite below Stettin, a very strong fortress, especially in its exterior works, taken by the French in 1806, and a very busy seaport; they then form a large lake, called the *Stettiner Haff*, 37 miles long

by 40 broad, which communicates with the sea by three mouths, the *Peene*, on the west; the *Swine*, in the middle; the *Divenow*, on the east; whereby the coast is formed into two large marshy islands, *Usedom* and *Wollin*. The Oder is 500 miles in length, 450 of which are navigable.

Tributaries on the Left.—The *Oppa* passes by TROPPAU, a fortified town, the capital of Austrian Silesia; it forms the boundary between the Prussian and Austrian States.

2. The *Glatz Neisse* passes by GLATZ, a fortified town, the key of Silesia, with an old castle and a large citadel; taken by the French in 1807;—NEISSE, a fortified town, containing manufactories of military articles and of arms. This stream opens up an access from Bohemia and Moravia into Silesia; it receives a tributary stream, which passes near SILBERBERG, important on account of its fortifications.

3. The *Weistritz* washes SCHWEIDNITZ, a fortress which covers the road from Königgrätz into Silesia; taken by the French in 1807; it passes near LEUTHEN and LISSA, battle of 1517, won by Frederick over the Austrians.

4. The *Katzbach* washes LIEGNITZ, battle of 1241, won by the Mongols over the Germans; battle of 1760, where Frederick beat the Austrians; it ends below PARCHWITZ, celebrated for the armistice of 1813. It receives the *Wüthende Neisse* (Furious Neisse), which rises near HOHENFRIEDBERG, battle of 1745, won by Frederick over the Austrians, and passes by JAUER. Between this town and the confluence of the Wüthende Neisse was fought the battle of Katzbach, in 1813, where Macdonald was beaten.

5. The *Bober* rises in the Riesenkoppe, passes by LANDSHUT, an important position that opens up Silesia; battle of 1761, where the Prussians were defeated by the Austrians;—BUNTZLAU, a town protected by a double enceinte on the road from Breslau to Dresden, where Napoleon beat the Prussians in 1813;—SAGAN, battle of 1759, where Frederick was beaten by the Russians;—finally, KROSSEN, where it terminates. It receives the *Queiss*.

6. The *Görlitz Neisse* passes by ZITTAU, lying at the issue of the road from Gabel, by which Napoleon penetrated into Bohemia in 1813;—GÖRLITZ, a manufacturing town on the road

from Dresden to Breslau, in front of which lies REICHENBACH, battle of 1813, where Duroc was killed. It is connected with the Spree by the Cotbus canal.

7. The *Ocker* washes PRENTZLOW, battle of 1806, after which the remains of the Prussian army, the survivors of Jena, were cut off by the French army and compelled to surrender.

Tributaries on the Right.—1. The *Olsa* passes by JABLUNKAU, an Austrian fortress, and TESCHEN.

2. The *Wartha*, a stream as large as the Oder, rises in the last heights between the Oder and Vistula, flows first from S.E. to N.W., then from east to west; it runs through a perfectly flat country, in a broad and badly banked channel; washes CZENSTOCHAU, a fortress taken by the French in 1807; receives on its left the *Prosna*, which forms the boundary between Prussia and Russia, and which passes KALISCH, a fortified town situated in the midst of marshes; it washes POSEN, a fortified town, with a double enceinte and a castle, capital of Prussian Poland; receives on its right the *Netze*, forms a multitude of arms and islands, and ends at Küstrin.

The line of the Oder, already formidable by its direction and its size, has been rendered still more so by the fortresses with which it is studded; built by Frederick the Great, and demolished by Napoleon; they have been lately restored, and protect Prussia from Russia and Austria.

Political Divisions.—This basin is almost entirely included in the Prussian states, and forms the following provinces:—1, *Silesia*, capital Breslau, a rich and manufacturing country, taken in 1742 from Austria, which has only retained a small part of it;—2, *Brandenburg*, capital Berlin;—3, *Pomerania*, capital Stettin and Stralsund, divided by the Oder into ulterior and citerior; the former given to the Electors of Brandenburg by the treaty of Westphalia, the latter taken from the King of Denmark in 1814;—4, the Grand Duchy of *Posen*, capital Posen, the portion of the dismembered kingdom of Poland obtained by the King of Prussia in 1792. It also includes the Grand Duchies of *Mecklenburg Schwerin* and *Mecklenburg Strelitz*, capitals Schwerin and Neu Strelitz; Teutonic and Slavonic races, Lutheran religion, monarchical government with representative chambers.

2.—BASIN OF THE VISTULA.

This basin is formed by the eastern side of the low hills and marshy plains between the Oder and Vistula, by the northern side of the western Carpathians, and the western side of the scarcely undulating plains between the Vistula and Niemen. Its general direction is from S.E. to N.W.; its length, 400 miles; its breadth 250.

Encircling Mountains.—Save in its southern part, this basin has no marked belt. At Mont Wisoka, near the sources of the Oder and Vistula, commences the great chain of the *Carpathians*, which extend for upwards of 700 miles, and are divided into three parts:—1, *Western Carpathians*, from Mount Wisoka to Mount Sloiczek;—2, *Central Carpathians*, from Mount Sloiczek to Mount Czorna;—3, *Eastern Carpathians*, from Mount Czorna to the third defile of the Danube. The first and third are very dense, high, and spread out; the second, short and formed of high terraces, looks like a gulf between two promontories.

The Western Carpathians are composed, first of the very remarkable groups of *Bazskid*, which have a height of 5,000 feet; then of those of *Tatra*, a very confused and dense block, which has an Alpine character and peaks 8,800 feet high. From Mount Krivan, at the sources of the Poprad and Hernad, to Mount Sloiczek, at the sources of the San (Vistula) and Stry (Dniester), the chain describes a semicircle with its concavity towards the south, and it diminishes in height. At the sources of the San and Stry it ceases to belong to the line of the European water-parting, which is continued by a series of elevations, forming the eastern belt of the Vistula. The Carpathians are crossed by few and unimportant roads.

General Aspect.—The country is perfectly flat, abounding in bogs and morasses, over which the communications are rare and difficult, ill cultivated and sparsely peopled, except in its northern part, where it is remarkably fertile in cereals.

Coasts.—They are very low, covered with lakes, and form the Gulf of Dantzic, at the head of which, towards the east, is a marine lake, 50 miles long by from 2 to 12 wide, called the *Frische Haff*.

Course of the River.—The *Vistula* (Weichsel) rises in the Carpathians, close to the Olsa, runs from S.W. to N.E., washes CRACOW, the ancient capital of Poland, an independent republic from 1815 to 1846, now in the hands of the Austrians, who have made it a very strong fortress; pop., 30,000. It leaves on its left WIELICZKA, famed for its salt mines, and washes SANDOMIRZ, a middling town, badly fortified. Here it ceases to serve as the boundary between Russia and Austria, flows through ancient Poland, taking a northerly direction as far as the confluence of the Wieprz, and washes PULAWY, on the road from Lublin to Warsaw. After receiving the Wieprz, it turns to the N.W., passes near MACIEOWICE, battle of 1794, where Kosciusko was defeated and taken prisoner by the Russians; washes WARSAW (Warzawa), capital of Poland; pop., 160,000. This town, now commanded by an immense citadel, lies on the left bank, and has on the right bank a suburb called *Praga*, which is a most important bridge-head; battles of 1794 and 1831, between the Russians and Poles; it is the centre of all the roads and the key of the basin. Then the river passes by MODLIN, the best fortress in Poland; PLOCK, a town moderately fortified. It enters the Prussian states at THORN, a fortified town; turns to N.E.; washes GRAUDENZ, a fortress defended by an immense citadel; passes near MARIENWERDER, and divides into two large arms: that on the right, called *Nogat*, passes near ELBING, and ends in the Frische Haff; that on the left retains the name of Vistula, forms with the other the island of Nogat, washes DANTZIC, one of the strongest fortresses in Europe, the chief port of Prussia, with a cannon foundry, shipbuilding-yards, &c.; pop., 72,000; taken in 1780 by the French, who stood a memorable siege there in 1813. The Vistula ends at a distance of 2 miles from this town, near the fort of WEICHSELMÜNDE; it is skirted by canals and marshes in all the lower part of its course. The Bromberg canal connects it with the Oder by the Netze and Brahe.

Tributaries on the Left.—1. The *Pilica*, a considerable stream, bathes no place of importance.

2. The *Bzura* passes near LOWICZ.

Tributaries on the Right.—1. The *San* rises in Mont Sloiczek, flows through Upper Galicia, passes near PRZEMYSL, defended by a castle, and ends below Sandomirz.

2. The *Wieprz* contains in its basin Zamosc, the strongest fortress in Poland, and Lublin, an important commercial town.

3. The *Bug* rises in the low hills of Galicia, near Zloczow, runs from south to north, at first in Galicia, then in Poland, without washing any remarkable place, until it reaches Brzesc, a fortified town, covering the road from Warsaw to Minsk, where the Pinsk canal ends; it turns to the N.W., and ends below Modlin. It receives :—1, the *Peltew*, on the left, which passes by Lemberg, capital of Galicia; pop., 60,000;—2, the *Narew* on the right, which flows through immense morasses, washes Ostrolenka, battle between the Russians and Poles in 1831;—Pultusk, battle of 1703, won by Charles XII. over Augustus of Saxony; battle of 1807, between the Russians and French; it ends at Sierosk, a fortified town, and it receives the *Omulew*, famous in the campaign of 1807.—The triangle included between Sierosk, Modlin, and Praga is very remarkable; it is a sort of entrenched camp, where Polish patriotism has several times defended itself.—3. The *Oukra*, on the right, which flows through a country of bogs and morasses, and ends at Modlin. The space betwixt the Oukra and the Narew was the theatre of the campaign of 1807; the nature of the country aided the retreat of the Russians to Ostrolenka, after the affairs of Pultusk and Golymin, and induced Napoleon to go into winter quarters on the north of the Vistula.

Political Divisions.—The basin of the Vistula was the centre of ancient Poland, and consequently now belongs to the States that partitioned that kingdom. The upper part forms *Galicia*, Austria's portion; the central part forms the new kingdom of *Poland*, Russia's portion; finally, the lower part forms *West Prussia*, an ancient possession of the Teutonic Knights and of the Kings of Poland, acquired by the Electors of Brandenburg.

§ VI.—WATERSHED OF THE BLACK SEA.

BASIN OF THE DANUBE.

The basin of the Danube is formed :—1, by the south side of the Swabian Alps, of the Steigerwald, of the Fichtelgebirge, of the Bohemian, Moravian, and Sudetic mountains, of the Western and Central Carpathians, and by a line of heights which runs between the Pruth and Dniester as far as the Black Sea;—2, by

the northern side of the Constance, Algau, Grisons, Rhætic, Carnic, Julian, and Dinaric Alps, and of the Balkans as far as the Bosphorus. These two chains, which are from 1,500 to 1,700 miles long, are united in the southern part of the Black Forest, where the basin commences. Its general direction is from N.W. to S.E., its length about 1,250 miles, its breadth about 500 miles.

Mountains of the Northern Belt.—The Swabian Alps, the Steigerwald, and the Fichtelgebirge, which have been described in the Basin of the Rhine (see p. 261), being generally steeper on the south than the north, throw off to the Danube very short branches, forming narrow and generally difficult valleys. The same is the case with the Bohemian and Moravian mountains, described in the Basin of the Elbe (see pp. 276, 277), though the latter form broader valleys; but the Sudetic mountains, described in the Basin of the Oder (see p. 290), throw off southwards some large branches, among others that one which runs between the Morava and the Waag, as far as the Danube, and which is called *Little Carpathians*. Between the Gran and Hernad (Theiss), the Tatra group throws off a series of very confused groups, of small elevation, the southern part of which is called *Czerhatz*, and dies away towards the Danube; but at the east of this chain the Western Carpathians only give off very short branches.

At Mont Sloiczek, the northern belt leaves the European water-parting line, and is continued by the *Central Carpathians*. These run S.E. as far as Mount *Czorna*, about the sources of the Pruth and of a tributary of the Theiss, and are not so much a chain as high country dotted over with isolated groups, which become gradually lower on either side until they are lost in the plains. From Mount Czorna the belt is formed by a line of ill-marked heights, which run between the Pruth and the Dniester as far as the Black Sea, whilst the Carpathians run south, describing a large portion of a circle, with its concavity looking west, having a length of 350 miles, and being composed of very dense blocks; these are the *Eastern Carpathians*, which attain a height of 9,000 feet, are crossed by few and difficult passes, and separate politically Transylvania from Moldavia and Wallachia.—Roads of the Central and Eastern Carpathians: 1, from Pesth by Pelschötz and Unghvar to Lemberg; 2, from Pesth by Gross

Caroly and Bistritz to Jassy; 3, from Pesth by Temeswar and Hermanstadt to Bucharest; this is a fine road; it crosses the Red Tower (Rothe Thurm) Pass, and is of great commercial and military importance.

Mountains of the Southern Belt.—The heights of Constance (see p. 260) give off to the north only very undulating high land; but the Algau and Grisons Alps (see p. 260) throw off large spurs to the N.E.; the most remarkable of these is detached from Mont Silvretta, and receives the name of *Innthal Mountains;* it bounds the left bank of the Inn, towards which it is very steep, runs from S.W. to N.E., and gives rise to the Lech and Isar, between which its spurs trend in the manner of steps as far as the Danube.

At Mont Maloia, the point where the basins of the Rhine, Danube, and Po meet, commence the *Eastern Alps*, which do not belong to the great European water-parting line, and which describe a large curve of 373 miles in length, symmetrical to the curve formed by the Western Alps (see Basin of the Rhone, p. 175). They offer nearly the same characters, run, always getting lower, to the Adriatic, are steeper on the south side than on the north, and form valleys parallel to their crest and of great size. They are formed of: 1, the Rhætic Alps; 2, the Carnic Alps; 3, the Julian Alps.

1. The *Rhætic Alps* form a long and rugged chain which run from west to east for 174 miles, as far as the *Three Lords Peak* (*Drei Herrn Spitz*), whose summits rise to a height of 13,120 feet.—Passes: 1, *Maloggia*, or *Maloiq* pass, between Silva Plana, at the sources of the Inn, and Chiavenna on the Maira; 2, *Bernina* pass (7,657 feet), between St. Moritz on the Inn and Tirano on the Adda; 3, *Cierfs*, or *Ofener* pass (7,070 feet), between Zernetz on the Inn and Glurns on the Adige; 4, *Reschen Scheideek* pass (4,595 feet), between Nauders and Glurns. These four roads are all very bad, but important; by them access is gained to the western flank of Tyrol; the last-named belongs to Austria, and skirts the Swiss territory; the three others belong partly to Switzerland, partly to Austria.—5, *Brenner* pass (4,775 feet), between Innsbruck on the Inn and Brixen on the Eisack; it is the most important pass of the Eastern Alps, because it connects Italy with the centre of the Austrian States, and because

from Germany it turns all the rivers north of the Po that run into the Adriatic; by dint of a good deal of labour the road has been made practicable for carriages at all seasons; a railway through the pass was completed in 1867, connecting Innsbruck with Botzen, and thence to Verona.

From the *Drei Herrn Spitz* (11,492 feet), a very remarkable knot of mountains, which gives rise to the Salza on the north, the Drave on the east, the Eisack on the west, three large chains are thrown off which we shall proceed to describe in detail.

The first, on the north, bounds the Salza, and throws between it and the Inn very confused groups, the highest hills of which attain an elevation of 11,480 feet; they are called the *Salzburg Alps.*

The second, on the east, is called *Noric Alps*, as far as Mont *Elend*, a block where the Enns and Muhr rise; it separates the Salza from the Drave, is very rugged, covered with everlasting glaciers; its highest peak is the *Gross Glockner*, which rises to a height of 12,454 feet, and it has no passes.—From Mont Elend this chain takes the name of *Styrian Alps*, and runs northwards, dividing the Enns and Muhr; it decreases in height, retaining all its ruggedness, runs N.E. as far as the *Semmering* (3,257 feet); thence it trends southwards in a great curve, which gives its shape to the Raab, and under the name of *Baconier Wald*, terminates at the Danube between Gran and Waitzen. The Noric and Styrian Alps and the Baconier Wald are together 300 miles long, and the two latter are crossed by several important roads: 1, from Villach by St. Michel and Rastadt to Salzburg; 2, from Leoben on the Muhr, down the Enns, to Enns on the Danube; 3, from Bruck on the Muhr to St. Pölten on the Trasen; 4, from Klagenfurth to Bruck, and thence to Vienna by the Semmering pass; this is the direct road from Italy to Vienna, and the one taken by the French in 1797, 1805, and 1809; it is skirted by a railway.

Numerous branches running north and south are given off by the Noric and Styrian Alps; one runs north from Mont Elend between the Salza and Traun, and is called *Tännen Gebirge* and *Hausrück*; it is high, difficult, and crossed by several important roads: 1, from Salzburg by Wöcklabruck, to Linz; 2, from Braunau, by Lambach, to Steyer; 3, from Scharding, by Efferding, to

Linz; these roads are celebrated in connection with the invasions of Austria by the French in 1800 and 1809.—Another runs from Mont Elend, S.E. between the Muhr and the Drave; it is called *Carinthian Alps*; it is crossed, by the very remarkable road from Klagenfurth to Judenburg, by the defile of Neumark, which was followed by the French army in 1797.—A third proceeds from the Styrian Alps near the Semmering, under the name of *Vienna Forest* (Wiener Wald); it is from 2,296 to 2,624 feet high, and divides diagonally the valley of the Danube betwixt Vienna and St. Pölten. The other branches dip into the Danube, barely leaving room for the great road which skirts it, and which is the only one between the Danube and the Styrian Alps.

2. The third great chain thrown off from the *Drei Herrn Spitz*, continues the southern belt of the Danube under the name of *Carnic Alps*; it is at first so low near the pass of Toblach, that the valleys of the Rienz and Drave, which it separates, seem to be but one and the same depression of the great chain; it then grows higher, running in a tortuous manner to the S.E., that is to say, parallel to the Styrian Alps as far as Mont Terglou; its highest peak, the *Marmolata*, is 11,465 feet high, and it has several remarkable passes: 1, *Toblach* pass, between Brixen on the Eisack and Lienz on the Drave; 2, *Tarvis* pass (2,850 feet), between Osopo on the Tagliamento and Villach; 3, *Predil* pass, between Chiusa di Pletz, basin of the Isonzo, and Tarvis, on a tributary of the Save: it there joins the last named. These three roads lead directly from Italy to Vienna by the Muhr and the Semmering; they were followed by the French in 1797, 1805, and 1809.—The Carnic Alps throw off from Mont Predil a considerable branch, which bears the same name, and runs between the Drave and Save.

3. At Mont *Terglou*, which is 10,213 feet high, commence the *Julian Alps*, which extend in a S.E. direction as far as Mont *Kernicza*; they are 100 miles long; they contain no pass of importance except that of *Adelsberg*, which serves to connect Gorizia on the Isonzo, Trieste on the gulf of the same name, and Fiume on the gulf of Quarnero, with Laibach on the Save. The pass of Adelsberg is crossed by the railway from Vienna to Trieste.

Between Mont Kernicza and Mont Scardo, a length of 370

miles, lie the *Dinaric Alps*, which run from N.W. to S.E., skirting the Adriatic Sea, towards which their slope is very steep, whilst they send off long branches stretching towards the Danube. They several times split into two branches, which contain betwixt them plateaus of from 15 to 20 miles in length, where the streams become lost without any escape to the exterior. Their height is from 5,200 to 5,900 feet; the *Dinara* is 7,450 feet high, and the *Scardo* 9,840 feet. They have but a small number of roads: 1, from Fiume to Carlstadt; 2, from Spalatro to Traunik on the Bosna; 3, from Scutari to Novi Bazar. The chain is besides skirted by two parallel roads; the one runs along the coast, the other runs through the basin, by Carlstadt, Banyalouka, Traunik, Novi Bazar, Pristina, &c.

At Mont Scardo or Tchardagh commence the *Balkans*, which run from west to east, forming numerous elbows, for 400 miles; they are called *Gliubotin Dagh* (Scardus), *Egrisou Dagh* (Orbelus), *Emineh Dagh* (Hæmus). Their general height is about 8,000 feet, and it diminishes as they approach the Black Sea; they are wild and precipitous mountains, covered with forests, but do not retain perpetual snow. At a short distance from Selimno the chain splits into three branches: the northern one runs parallel to the coast of the Black Sea, and ends at Cape Kalakria; the middle one ends at Cape Emineh; the S.E. one runs along the Black Sea as far as Cape Fanaraki, at the N.E. extremity of the Bosphorus. The roads are few and bad: 1, from Uskiup on the Vardar to Pristina on the Ibar; 2, from Ghiustendil on the Strouma to Sophia on the Isker; 3, the defile of Soulu Derbend, from Doubnitza on the Strouma to Samakof on the Isker; 4, Trajan's Gate, between Bazardjik on the Maritza and Sophia on the Isker; 5, from Keisanlik, valley of the Maritza, to Gabrova on the Jentra; 6, from Karnabat to Schumla; 7, coast road between Bourgas and Varna.—The northern spurs of the Balkans are of considerable size; the largest is thrown off from the Egrisou Dagh, between Ghiustendil and Sophia; it runs in a tortuous direction, under the name of *Veliki Balkan*, between the Morava on the one hand, and the Isker and Timok on the other, and terminates on the Danube at Orsova. A defile crosses it, which goes from Sophia by Nissa to Belgrade; it is the road from Vienna to Constantinople.

Among all the branches which are thrown off south and north from the immense belt of the Danube, and which run in its basin at greater or smaller angles, there are three on each side which are very remarkable: they meet on the river, hem it in, and divide the whole basin into four partial basins of a different level, forming, as it were, four immense steps, which the river has to descend. It is believed that before the Danube succeeded in penetrating these three dykes, these basins were vast lakes. The first of these strangulations occurs after the confluence of the Inn; it is formed on the south by the chain of the Hausrück, on the north by a small chain sent off from the Böhmerwald, which runs betwixt the Ils and the Mühlbach. The second occurs between Gran and Waitzen; it is formed on the south by the long chain of the Noric and Styrian Alps, and the Baconier Wald; on the north by the Czerhatz hills. The third occurs above Orsova; it is formed on the south by the Veliki Balkan, and on the north by the Eastern Carpathians. We shall describe in succession these four partial basins.

FIRST BASIN OF THE DANUBE.

General Aspect.—It is a great plain of pentagonal form, and 1,600 feet in height, the most extensive in Southern Germany, rich, fertile, inhabited by a population of five to six millions, full of all kinds of resources, traversed by a great number of good roads; easy of invasion by the north, owing to the low elevation of its belt, which forms no greater obstacles than river banks; but on the south, fringed with a dense range of mountains, whence rise the great rivers which fertilize and protect the country.

Course of the River.—The *Danube* (Danubius) rises in the Black Forest at a height of 2,237 feet, by two sources, which flow through deep and difficult valleys; the northern one passes by VILLINGEN, an advantageous position, formerly fortified, where several roads coming from the Rhine meet. The two sources unite in a large marsh at DONAUESCHINGEN, the point of convergence of the roads from the Kinzig, the Elz, the forest towns, &c.; and the river, closely hugged on either side by steep and wooded banks, flows through a defile where there is no room for a road, washing TUTLINGEN, battle of 1643, where Rantzau was

beaten by Mercy; it is here that the remarkable road from Stuttgart to Schaffhausen passes that connects Upper Germany with Italy. It next washes SIGMARINGEN, where the right bank opens out, and it receives several important streams; then it passes ULM (left bank), where it becomes navigable, its bed being about 300 feet wide, and on its right bank is a vast and fertile plain.—This stronghold, in former days a free and imperial town, until 1866 a federal fortress, now belonging to the kingdom of Würtemberg, is the gate of the basin of the Danube, the pivot of an invasion of Germany, a great mart of commerce and war. It is chiefly defended by the heights of Michelsberg, on which is built an entrenched camp for 50,000 men, and which stretch as far as the village of ELCHINGEN, a formidable position, rising like an amphitheatre at some distance from the river, where Ney beat the Austrians in 1805.

The valley of the Upper Danube, from its sources to Ulm, forms one continuous defile, which is the most important strategic portion of all the basin and the key of all ulterior operations. "There," says the Archduke Charles, "lies the bone of contention which must be seized at all hazards."* Three routes lead thither: 1, by the defiles of the Black Forest, by means of the valleys of the Elz and Kinzig; this is the shortest route for an aggression from France; but after having overcome the very considerable obstacles of the Black Forest, operations can only be conducted on the plateau of Constance, whilst in front stands the fortress of Ulm, commanding both banks, and on the left flank are the wild valleys of the Swabian Alps. Villars, in 1703, followed this route to effect his union with the Bavarians; but he only reached Villingen after twelve days' fighting and labour; it was by this route also that Moreau effected his laborious retreat in 1796;—2, by the basins of the Neckar and Main simultaneously: this is the longest and most indirect route; it leaves the flank exposed to the whole of Northern Germany, and after all only brings us to the left bank of the Danube, where military operations are almost impossible; but it turns completely the defile and fortress of Ulm, and when the river is crossed, the invading army is thrown almost at once into the centre of the basin. This is how the French army penetrated

* See *Campagne* de 1799, t. i., p. 27.

in 1805; whilst two army corps presented themselves directly in front of the defiles of the Black Forest, as though they were about to force them, the corps of the left wing, to whom they acted as a pivot, wheeled round by the roads of the Neckar and Main as far as the Danube, which they crossed, and then the Austrian army, which was crowded in the defile, was turned and forced to surrender in Ulm. This admirable operation had been mutilated in 1796, when two French armies invaded Germany simultaneously by the basins of the Main and Neckar; the first, under Moreau, crossed the Rhine at Kehl and marched from Stuttgart on to the Danube, which it crossed at Donauwerth; the second, under Jourdan, should have converged towards the first, but it was diverted towards Amberg; it was beaten at Neumarkt and Würzburg, and compelled to retreat as far as Düsseldorf; this was what led to the famous retreat of Moreau through the Black Forest;—3, by Switzerland and the forest towns: this route leads to the right bank of the Danube; but it would be necessary to cross the Rhine; only the head of the defile is turned by it, and finally, it can only be followed by violating the neutrality of Switzerland. It was by this way that Moreau penetrated in 1800; but he was compelled to fight four battles, at Engen, Möskirch, Biberach, and Memmingen, before reaching Ulm, and he had to turn as far as Augsburg, and make himself master of both banks of the river, in order to force the Austrians to leave that stronghold. (See in the Basin of the Rhine, p. 207, the importance of the forest towns for giving admission to the defile of the Upper Danube.)

After Ulm, the Danube becomes wide, not deep, beset with wooded islands; the left bank is still hugged by the mountains, from which but few streams run into it; the left almost always commands the right bank, which is all plains and marshes. It passes near GÜNZBURG (right bank), on the road from Ulm to Augsburg, battle of 1805, won by Ney over the Austrians;—HOCHSTEDT (left bank), battle of 1703, won by Villars over the Austrians; battle of 1800, won by Moreau over the Austrians;—BLENHEIM (left bank), battle of 1704, won by Eugene and Marlborough over the French. The river next washes DONAUWERTH (left bank), a fortified town in former times, bridge-head connecting the defence of the Lech with that of the Wernitz,

a very important position between Ulm and Ratisbon, where the roads from the Neckar and Main to Augsburg meet, and where the French armies have often crossed the river;—NEUBURG (right bank), battle of 1800;—INGOLSTADT, a fortified town with a double bridge-head, where the roads from the Main to Munich join;—NEUSTADT (right bank), where the road from Ingolstadt to Ratisbon passes. The river is studded here with wooded islands, which give it great breadth, makes numerous turnings, and its banks are steep, first on one side, then on the other; it thus passes before the defile of Abach, on the right bank, through which passes the high road from Neustadt to Ratisbon: this defile, formed by wooded heights, is the key to military operations between the Danube and Isar; it was through it that Davoust marched in 1809 from Ratisbon to Abensberg, to join Napoleon, in order to cut into two the Austrian army, which was marching directly from Landshut to Ratisbon, and it was there that he fought, on his march, the engagement of THANN.—Thereafter the river reaches RATISBON (Regensburg), right bank, a large and wealthy town, formerly free and the seat of the Imperial Diet, now belonging to Bavaria; it is a first-class strategic position, at the issue of the roads from the Main and Elbe on the Danube, half-way between Strasburg and Vienna, in the centre of the chess-board of the Danube; it is defended by a wall and some works, and commanded by the hill of the Trinity. It was upon this town that the Austrians, in 1809, moved by both banks, in order to prevent the union of the two French armies on the Main and the Lech; it was there they were driven upon the Danube, beaten, and thrown over on to the left bank, after the town had been taken by assault.

Up to this point the river flows N.E., and Ratisbon lies at its most northern point; it now turns to the S.E., hugged on its left by a long chain of the Böhmerwald, and having an immense plain on its right. It has no roads parallel to its left down to Passau; so that an army in possession of the right bank can keep or force its adversary to the left bank, because it can always be sure of reaching before him all the points of the Danube that admit of the river being crossed. This was the end attained by Napoleon when he defeated the Archduke Charles at Eckmühl in 1809, and forced him to recross the river at Ratisbon.

It washes few remarkable places: STRAUBING (right bank), where the road from Bohemia to Munich passes;—VILSHOFEN (right bank), where the road from Ratisbon to Passau passes;—PASSAU, a fortified town, with a citadel and considerable outworks, divided into four parts by the Ilz and the Inn, which there fall into the Danube, with a double bridge over the Danube and the Inn; it is a very important position, intermediate between Bohemia and Tyrol, the defence of Bavaria against Austria, and the key to the surrounding countries. Leaving this town the Danube reaches its first strangulation, and then it quits the Bavarian states in order to flow through the Austrian empire. It is almost everywhere fordable as far as Ulm; from Ulm to Passau it has numerous bridges, some of which are defended by fortifications, and almost all by the heights on the left bank.

Tributaries on the Left.—They are of no great size, because the belt is very close to the river; the first eight are mere torrents, which offer important positions in consequence of the difficulty of maintaining communications, and procuring the means of subsistence; one of them, the *Egge*, passes by NERESHEIM, on the road from Ulm to Nordlingen, battle of 1796, won by Moreau over the Archduke Charles; engagement of 1800.—We next meet with:—1, the *Wernitz;* it passes by OETTINGEN, receives a tributary, the *Eger*, which washes NORDLINGEN, battle of 1634, won by the Imperialists over the Swedes; battle of 1645, won by Condé and Turenne over the Imperialists; engagement of 1805, won by Murat over the Austrians; it is the point of union of the roads from the Neckar and Main to the Danube. The Wernitz leaves on its left the heights of *Schellenberg*, a very remarkable position, where Eugene and Marlborough in 1704 beat the French and Bavarians, and it ends at Donauwerth, after a course of 50 miles. The converging movement of the French army in 1805 was directed on this little stream, in order to turn the defiles of the Black Forest, Ulm, and the Austrians; Nordlingen was the point of concentration.

2. The *Altmühl* rises in the Steigerwald, flows from N.W. to S.E., as far as EICHSTEDT, then from west to east parallel to the Danube; it is a torrent-like stream in the mountains, marshy in the plain, about 120 miles in length, flowing through a country suitable for guerilla warfare and of very difficult access. It ends at the bridge of Kelheim, and offers a very good barrier, owing

to the nature of its valley, the steepness of its slopes, and the absence of communications. With this river is connected the *Ludwig's canal*, which unites the Danube with the Rhine through the Main.

3. The *Naab* rises by three sources in the Fichtelgebirge, and Böhmerwald, running through rocky and barren valleys; it receives the *Fils* which passes by AMBERG, a town of importance by its position, but indifferently fortified; battle of 1796, won by Archduke Charles over the French. It is navigable, and ends before Ratisbon, its basin is important, separating as it does the basin of the Main from that of the Elbe.

4. The *Regen* rises in the Böhmerwald, runs from east to west, parallel to the Danube, in a very narrow basin, washes CHAM, a good position on the road from Straubing into Bohemia, where the Archduke Charles entrenched himself after the evacuation of Ratisbon in 1809; it turns south and ends at Ratisbon.

5. The *Ilz* rises in the Böhmerwald and ends at Passau.

Tributaries on the Right.—They are important, large, and form famous military lines. First we meet with seven mountain streams, of from 15 to 25 miles long, among which we remark:—1, the *Ablach*, which passes by MÖSKIRCH, battle of 1800, won by Moreau over the Austrians; through its valley passes the road from the forest towns to the Danube;—2, the *Ostrach*, which passes by OSTRACH, an important position in the midst of marshes and precipices, engagement of 1799; this stream has muddy and impracticable banks, and lies on the road from the forest towns to the Danube;—3, the *Riss*, which runs through a marshy valley, and passes by BIBERACH, road from Stockach to Ulm, battles of 1796 and 1800, won by Moreau over the Austrians.

After these seven streams commence the large rivers which run through broad valleys, and form the rich and beautiful plain of the Danube.

4. The *Iller* (Ilargus) rises in the Algau Alps, runs from south to north through a valley parallel to this chain; washes KEMPTEN, where the roads from Switzerland, Tyrol, and Bavaria meet; it passes near MEMMINGEN, situated on a brook and defended by some works; a remarkable position, covering

the Iller and the Lake of Constance, and where the roads from the lake, Tyrol, and the Danube meet; engagements of 1800, won by Moreau over the Austrians, and of 1805, won by Soult over the Austrians. It then flows through a difficult and inundated country, rich and populous, formed by a great many channels and islands, and ends near Ulm. Its right bank is the most precipitous; it is not navigable, receives many brooks on its left, and in part of its course separates the kingdoms of Würtemberg and Bavaria.

5. The *Gunz*, *Mindel*, *Zusam*, and *Schmutter*, are parallel streams of from 40 to 45 miles in length, flowing through wooded and marshy valleys, and offering to a retreating army a great many defensive positions, particularly on the road from Ulm to Augsburg. On the Zusam are :—ZUSMERSHAUSEN, battle of 1648, won by Turenne over the Imperialists ;—WERTINGEN, engagement of 1805, won by Murat over the Austrians.

6. The *Lech* (Licus) rises in the Algau Alps, flows from S.W. to N.E., through a deep and wild valley, defended by the forts of EHRENBERG and KNIEPASS; it passes near FÜSSEN, a fortress in a formidable defile, protected by the impregnable forts of Pinzwang and Reiti; taken by the French in 1800. It is Bavaria's defence against Tyrol. Thence it runs almost due north through a wooded, hilly, and roadless country; it reaches SCHONGAU, a good position, where several roads meet; its valley becomes narrow and deep, hugged on the right by a very precipitous bank, which extends towards the Danube, and almost hangs over the stream, whilst on its left there is only a very low plain; it washes LANDSBERG, through which runs the road from Memmingen to Munich, engagement of 1800; divides into several branches which form large islands; runs near AUGSBURG (Augusta Vindelicorum), formerly a free and imperial town, famed for the Lutheran confession of faith in 1530, and for the league of 1687, now belonging to Bavaria; it is a very remarkable position, centre of the defence of the Lech, and of all the roads of the right bank; it contains a population of 49,000, some old fortifications, and the principal arsenal of Bavaria.—After this the Lech receives on its left the *Wertach*, is skirted by the *Schmutter* and *Acha*, which run parallel with it, and treble the difficulties of its passage; it ends below RAIN, a small fortress

which is one of the gates of the river, though not lying on its banks; the important positions where Gustavus Adolphus defeated the Imperialists in 1631, are between Rain and Donauwerth.—The Lech is not so much a river as a torrent with a very diversified course; it becomes very formidable during floods, because it runs between steep banks and then spreads out with impetuosity over a bed 1 mile broad. It is not navigable, and its very numerous fords are constantly changing.

Up to this point the tributaries of the Danube on the right run perpendicularly to it, and owing to that circumstance they offer defensible positions, but the subsequent ones flow from S.W. to N.E., forming such an acute angle with the Danube that their lower part is almost parallel to it, so that they are not defensible on a continuous line, and towards their confluence they present as it were large culs-de-sacs, from 19 to 25 miles wide, into which armies may be driven, but in which likewise they might have their wings supported on either side.*

7. The *Paar*, *Ilm*, *Abens*, *Great Lauber*, and *Little Lauber*, are rivers of from 31 to 50 miles in length, rising in a line of heights that runs from S.W. to N.E., between Augsburg and Ratisbon, parallel to the Isar and Danube. They flow through wooded marshy valleys and present some very remarkable positions; on the Ilm is GEISENFELD, engagement of 1796, won by the French over the Austrians; on the Abens is ABENSBERG, battle of 1809, won by Napoleon; on the Great Lauber is ECKMÜHL, battle of 1809, won by Napoleon over the Archduke Charles.—The country in which these streams are situated forms a rectangular figure bounded by the Isar from Munich to Deckendorf; by the Danube from Deckendorf to Ratisbon; by the Danube from Ratisbon to Rain; finally, by the road from Munich to Rain. It is a wooded and watered country, intersected by little valleys, where the only plain is the plateau of Rohr, which stretches without any obstacles betwixt the Great Lauber and the Abens as far as the Kelheim bridge, forming by its precipitous sides on the N.W. the defile of Abach. If an army pushed up to the head of this rectangle desired to get out of it, it would be obliged to cross the Danube; it was on this obligation that the plan of the campaign of 1809 depended.

* Pelet, *Campagne de* 1809, t. i., p. 260.

The Archduke Charles marched by the middle of the rectangular space between Landshut and Ratisbon, with the design of cutting off the two French armies isolated at Augsburg and Ratisbon; seeing the danger, Napoleon performed his general movement of concentration, directing the corps of Davoust to march in file from Ratisbon to Abensberg by the defile of Abach; he beat the Austrian left wing at Abensberg, separated it from the centre, and cut it off from its line of retreat to Landshut; he pursued this wing to Landshut, drove its remains to the Inn, and again fought the centre at Eckmühl, pushed it on to the Danube, and forced it to throw itself on to the left bank by Ratisbon. The result of these splendid manœuvres was to make the Archduke lose his line of operations, and his retreat on the capital, and to force him to plunge into Bohemia, whence he could only regain the Danube in front of Vienna.

8. The *Isar* (Isara) rises from the chain which encloses the left bank of the Inn, on a level with Innsbruck; it flows through a very deep valley and among impracticable mountains, washing SCHARNITZ, the ancient Porta Claudia, the bulwark of Tyrol; its fortifications were stormed by Ney in 1805. After that the river flows through a valley more open but bounded by high wooded mountains, receives several tributaries, runs through large forests, has a wide channel studded with islands, and often overflows its banks. In this state it passes through MUNICH (München), the capital of Bavaria, where are the chief military establishments of the kingdom, and where all the roads of the right bank converge; pop., 167,000. It then becomes parallel to the Danube, traverses large marshes, washes FREISING;—MOOSBURG;—LANDSHUT, centre of the line of the Isar, an important position, where several roads meet, particularly the one from Ratisbon to Braunau; taken by the French in 1796, 1800, 1805, and 1809; battle of 1809, where Napoleon beat the Austrians. Thereafter the Isar becomes a useful river, running through a fertile country, splits into several branches which enclose many islands, its right is crowned with heights, whilst its left is low and marshy; it ends opposite Deckendorf, after a course of 150 miles long. Its chief tributary is the *Amber*, which washes DACHAU, a remarkable position on the road from Munich to Augsburg.

9. The *Vils* is 64 miles long, runs from S.W. to N.E., passes no place of importance, and ends at VILSHOFEN.

10. The *Inn* (Œnus) rises in the Maloggia Pass (at a height of 5,941 feet), runs from S.W. to N.E., between the Grisons and Rhætic Alps in a very deep valley called the *Engadin*, which is 45 miles by 1 broad, wild and desert in its upper part, rich and populous in its lower part; in it lie SILVAPLANA, ZERNETZ, and NAUDERS, villages remarkable as being the points of departure of the roads that cross the Rhætic Alps. On reaching LANDECK, where the road from Feldkirch over the Algau Alps issues, the Inn turns almost due east, hugged on the left by the spur which gives rise to the Lech and Isar, and having its right furrowed by frightful torrents, descending from the Rhætic Alps; it thus washes INNSBRUCK, capital of Tyrol, with a castle and an arsenal, taken by the French in 1809; it becomes navigable at HALL; resumes its N.E. direction, and reaches KUFSTEIN, a fortress commanding the Innsbruck road, the key of Tyrol, in connection with Scharnitz and Feldkirch. Thereafter the river runs through a broader valley, bounded by high mountains, and flows in a deeply excavated channel, the precipitous side of which is almost always on the right bank, and which is accessible only at a few points; one of them is NEUBAIERN, where the French surprised the passage of the river in 1800. It then washes ROSENHEIM, defended by the heights of the right bank, and by the long defile through which passes the road from Munich to Salzburg;—WASSERBURG, a most important bridge-head on the road from Munich to Salzburg;—MÜHLDORF, road from Munich to Braunau.

Between these two last towns, all the space separating the Inn from the Isar is studded with small wooded hills, where but few practicable paths, but many muddy brooks, are to be met with; it is in this space, just at the water-parting between the two rivers, that the forest or rather the wood of *Hohenlinden* lies; it consists of groups of trees contiguous to one another, and lying parallel to the two streams, thus forming a sort of natural stockade of 15 to 17 miles in length, and 4 miles in depth; the two roads from Munich to Wasserburg and from Munich to Mühldorf traverse this forest; Ebersberg is on the former; Hohenlinden and Mattenpöt on the latter; between these two

roads are some impracticable country lanes; from Mühldorf to Hohenlinden the country is hilly, intersected by woods and brooks; from Hohenlinden to Munich it is all a fine plain. In this space was fought the battle of Hohenlinden in 1800, won by Moreau over the Austrians.

After Mühldorf the river runs east in a broad channel studded with islands and sand-banks, receives the Salza, turns N.E., serves during the rest of its course as the boundary between Bavaria and Austria; it washes BRAUNAU, a fortified town, important by reason of its situation and by the roads that meet there; then SCHARDING, where it has only one channel, 394 feet wide, overhung by rocks through which it flows impetuously. It ends at PASSAU, in a bed 754 feet wide; whilst that of the Danube is only 492. Its navigation is difficult, it is liable to sudden and great floods, its length is about 249 miles.

It receives several tributaries on its right: the largest is the *Salza*, which rises in the *Drei Herrn Spitz*, flows from west to east through one of the wildest valleys of the Alps; receives on the right the *Ache* which washes WILDBAD GASTEIN, famed for its mineral water and memorable for the treaty of 1864 between Austria and Prussia. On arriving opposite Mount Tannen it is compelled by the Hausrück to turn north, hemmed in on either hand by tremendous mountains. It runs beneath the PASS LUEG, ancient fortifications destroyed by the French in 1809, and since restored, where the road is partly carried on a shelf of planks along the precipices which descend to the river; it reaches level ground, flows through a rich and picturesque country, washes SALZBURG, formerly a sovereign archbishopric, now belonging to Austria, an excellent position defended by fortified heights, impregnable rocks, and a very strong castle, taken by the French in 1809. Below this town the Salza receives the *Saal*, a deep river covering the west front of Salzburg, and having between itself and the Salza a block of mountains 9,840 feet high; it then becomes wide, rapid, navigable, flows through a rich and populous valley, washes BURGHAUSEN, which has an important castle and bridge, and falls into the Inn between Neuötting and Braunau. It derives its name from the great salt mine in its basin, which is one of the most picturesque in Europe.

The Inn is a first-class strategic river; it bars the entrance

to Tyrol from the side of Germany, and on the side of the Danube it offers a front of operations which can only be turned by Bohemia or the Alps. "This formidable curtain, resting its right on the fortress of Braunau and its left on the fort of Kufstein, is flanked by two immense bastions, equally threatening to the enemy who would venture in front where it is concave; one is Tyrol, with its inaccessible mountains and its warlike population; the other is Bohemia, with its belt of mountains."* Its line is divided into two parts; a salient, from Kufstein to Mühldorf, and a re-entering, from Mühldorf to Passau; the re-entering line leads directly to the road to Vienna, but it is broad and well supplied with bridge heads; the salient line is not so well defended, but after it is broken through, the advancing army would require to cross the Salza and other streams. It was by this salient line that Moreau crossed the Inn in 1800; and by the re-entering line that Napoleon did the same in 1805.

Political Divisions.—The first basin of the Danube comprises: 1, part of the principalities of *Hohenzollern*, belonging to Prussia.

2. Part of the kingdom of *Würtemberg*.

3. The greater part of the kingdom of *Bavaria*. This State, which occupies the richest and most important portion of the basin of the Danube, ought, from her position fronting the long frontier of Austria, to hold that power in check and serve as a bulwark to the south-western German states. This was once the part she essayed to play in the reigns of Louis XIV. and Louis XV.; she played the same part also under Napoleon, who enlarged her for that purpose, and gave her natural frontiers by despoiling Austria of Tyrol; but since 1814, she has been forced to follow in the wake of her powerful neighbour, who encompasses her by the three formidable salients of Bohemia, the Inn, and Tyrol. The expulsion of Austria from Germany in 1866 seemed to promise a restoration of independence to Bavaria, as the head of a South German confederation; but she has rapidly succumbed to the influence of her still more powerful neighbour, Prussia, which has deprived her of her dominions north of the Main, and disposes of her military power. Teutonic race, Catholic religion, representative monarchy.

* Jomini, *Histoire des Guerres de la Révolution*, t. xiv., p. 74.

4. German *Tyrol* (Austrian empire), capital Innsbruck.

The first basin of the Danube, an immense plain 100 miles in breadth, 150 in length, surrounded by mountains, and shut in by the two defiles of Ulm and Passau, is the usual theatre of the wars between France and Austria. The importance of this basin is chiefly owing to its contiguity to the basins of the Main and Po; operations that have Vienna as their aim, necessarily having their line on the Po, the Main, or the Danube, three parallel rivers. That of the Danube (by Ulm, Augsburg, Munich, Braunau, Linz, and Vienna) is the principal line, as it is the most direct and intermediate between the other two; that of the Main is eccentric, oblique, traversing Bohemia, communicating badly with the Danube, except in front of Ratisbon; that of the Po is too far off, separated by an enormous mass of mountains, but yet almost as direct as that of the Danube; accordingly operations on the Danube and Po have always been correlative, and the French have never yet marched on Vienna by Bavaria without at the same time marching thither by Italy. This is proved by the campaigns of 1703, 1796, 1799, 1800, 1805, and 1809. In this march by the Danube on Vienna, the Rhine from Basel to Mentz is the base of operations; this base being contiguous to the basin of the Danube by the defile of Ulm, the importance of which we have already pointed out. The line of operations is always on the right bank; for the left is hemmed in, narrow, unfertile, without any roads parallel to the river, except as far as Ratisbon, whilst the right is broad, level, intersected by numerous communications, abounding in all kinds of supplies, and, moreover, close to Italy, where an army ought to act simultaneously with that of the Danube. Still the line of operations sometimes begins on the left bank, and this was what happened in 1805 and 1809; but the invading army in such a case hastens to gain the right bank, and the whole plan of these two campaigns rests on this fundamental operation; the passage of the river moreover should be performed above Ratisbon, because below that town the roads recede from the river, lead to Bohemia through a covered, diversified, and ill-known country. Thus, in 1800, Kray, after the battle of Hochstedt, being driven on to the left bank, pushed on to Nordlingen, then fought his way back to the Danube, which he crossed at Neuburg in order to regain the right bank. So also in 1809, the

Archduke Charles, driven on to the left bank, after the battles of Eckmühl and Abensberg, made several attemps to debouch from Bohemia on to the right bank, in order to check the long march of the French on Vienna; he was unable to do this; and, in order to save the remnants of the Austrian monarchy, he was obliged to deliver the battles of Essling and Wagram on the left bank, and in front of the capital which had been already taken.

SECOND BASIN OF THE DANUBE.

General Aspect. — It is an immense, irregular space, surrounded on all sides by high mountains, and having no resemblance to the first basin. The river is always the most remarkable natural feature, and at its entrance we find a defile almost as formidable as that of Ulm; but it is on the left bank that we observe the large streams, the tracts of country broad and open, though greatly cut up by woods and marshes; the right bank is narrow, difficult, covered with naked and snow-clad mountains, picturesque lakes, short and tumultuous streams, which give the country quite a Swiss appearance. On either side the communications are few, and only moderately good; the country is populous, well cultivated, not badly off for manufactures, and rich in mineral products. The climate is one of the best in Europe.

Course of the River.—The constriction of the Danube is several miles in length, with intervals where it spreads out by branches and islands, which increase its breadth to 7,800 feet; it thus reaches Linz (right bank), a town of importance in consequence of its position at the issue of the roads from Bohemia, and the only fortified town betwixt Passau and Vienna. It is surrounded by thirty-two forts or towers, communicating by a covered way, so as to form an immense entrenched camp, 12 miles in circumference, and where a whole army might take up position. From Linz, where it is 656 feet wide, to Grein (left bank), it flows in an immense bed, which forms large islands and inundations: but from Grein to Krems it is hugged by the mountains on the right, and runs in a single bed of from 600 to 1,300 feet in width, where the navigation is dangerous. It thus washes Ips (right bank), a small town surrounded by a wall, and having a cavalry garrison;—Dürrenstein (left bank),

famous for the castle where Richard Cœur de Lion was confined; it is situated in a deep defile, where in 1805 Mortier, being surrounded by the Russians, fought a glorious battle; —STEIN and KREMS (left bank), small towns with a common bridge that connects them with MAUTERN, on the right bank; this bridge opens one of the routes from Bohemia to Vienna, which was followed by the Russians in 1805, and by the Austrians in 1809. After this the river spreads out in a broad plain, fringed by high hills, and forms numerous wooded islands, which increase its breadth to 2 miles; it washes TULN (right bank), where Sobieski crossed in 1683, to succour Vienna;—KLOSTERNEUBURG (right bank), manufactory of military equipages;—VIENNA (Vindobona), capital of the Empire of Austria, principal arsenal of the empire, with a manufactory of small arms, a cannon foundry, a school of engineering, &c.; population, 560,000; it lies on the right bank of the river, in a magnificent position, and is composed of a city, small, and till lately surrounded by a bastioned wall, and of thirty-four large suburbs, one only of which is on the left bank; it was the bulwark of Germany against the Hungarians and Turks; it was taken by the former in the thirteenth century; vainly besieged by the latter in 1683, with an army of 200,000 men, which was defeated by Sobieski, King of Poland; taken in 1805 and 1809 by the French. Its bridge, 1,400 feet long, is of the greatest importance; surprised by the French in 1805, which hastened their march on Moravia, it was destroyed by the Austrians in 1809, in consequence of which the French were obliged to force the passage of the river at ESSLING.

This village is 5 miles below Vienna, on the left bank of the Danube, which there runs in a perfectly level bed, containing many islands; the principal channel of the river is on the right bank, and the great island of Lobau (Lobaue) lies between it and the village. The island is more than two miles long, and nearly two miles wide in its broadest part. It is almost triangular, high, wooded, and separated from the left bank by an arm of the river varying in width from 300 to 500 feet, which forms a re-entering angle of considerable size. It was at this collection of branches and islands which give the river a breadth of nearly three miles, that the French attempted to

cross in 1809; but a sudden flood broke their bridges, and cut the army in two; for two days 50,000 men were exposed to the assaults of 100,000 in the Marchfeld, an immense plain, only intersected by a small bank formed near WAGRAM by the heights enclosing the Russbach, in front of which are the villages of ASPERN and ESSLING, and the small town of ENZERSDORF. These two villages, built of stone, formed of a single street, and capable of defence, were the theatre of the battle where Marshal Lannes was killed, and after which the French retreated to the island of Lobau. Six weeks later, the river was crossed again under the protection of formidable works; and then was fought the great battle of Wagram, where Napoleon vanquished the Archduke Charles.

The Danube below Essling receives the March at THEBEN, and washes PRESBURG, the ancient capital of Hungary, taken by the French in 1805 and 1809, treaty of peace of 1806; it then enters a plain 74 miles in breadth, and by means of two secondary branches, which only rejoin the Danube after having received the waters of several streams, it forms the two islands of Schutt; the northern branch is called *Neuhausler Donau*, it joins the Waag, and encloses the Great Schutt island, 50 miles long by 15 broad, in ancient times the abode of the Avars, and where Charlemagne defeated them; the southern branch is called *Wieselburger Donau*, rejoins the Danube at Raab, and forms the Little Schutt island; all the adjacent country is subject to frightful inundations, which often cover a space of 1,500 square miles. The river then passes by KOMORN, a very strong fortress with a large citadel, at the confluence of the Neuhausler branch; it then becomes enclosed between heights on either hand, which enlarge and close in upon it in such a manner that they eventually shut it up in its second defile between GRAN* and WAITZEN.—Between Passau and Gran we find bridges on piles at Linz, Krems, and Vienna, and bridges of boats at Theben, Presburg, Komorn, and Gran.

Tributaries on the Left.—We first meet with eight torrents of from 15 to 25 miles in length, rapid, with steep banks, which

* All places in Hungary have four names: a Hungarian, a Slavonic, a German, and a Latin. Thus, *Gran* is *Esztergom* in Hungarian; *Ostrihom*, in Slavonic; *Strigonium*, in Latin.

they wear away, running through an ill-peopled and roadless country; their basins are hemmed in between the Bohemian mountains and the Danube, and form an almost impracticable defile, into which, in 1809, the Archduke Charles hoped the French army would throw itself in order to pursue him. The first important stream is:

1. The *Kamp*, which rises in the Moravian hills, flows in a deep and wooded valley, in a tortuous course of 75 miles, for some distance parallel to the Danube; it is skirted by the road from Vienna to Prague by Tabor.

2. The *Gällersbach* is only 25 miles long, its valley contains the road from Vienna to Znaym; it washes HOLLABRUNN; engagement of 1805, between the French and Russians.

3. The *March* or *Morava* rises in the Schneeberg, and flows from north to south in a very tortuous course; its upper valley is rugged and hilly, its lower valley low and marshy. It flows by OLMÜTZ, a town defended by immense fortifications and a citadel, formerly the capital of Moravia;—HRADISCH, a town situated on an island;—GÖDING, celebrated in the retreat of the Russians in 1805. It spreads out among immense meadows and marshy woods, giving off innumerable branches and arms, and ends at Theben.

Its principal tributary is the *Thaya*, formed by two streams, which rise in the Moravian hills; it runs parallel to the Danube in a valley at first narrow and very precipitous, afterwards open and intersected by numerous woods, marshes, and arms, which make its course quite a puzzle; it washes ZNAYM, a town important by its position on the road from Vienna to Bohemia; engagement and armistice of 1809; it leaves on its right NIKOLSBURG, on the road from Vienna to Brünn, famous for the treaty of 1866. At MUSCHAU, a position of importance, in the midst of marshes and on an island, on the road from Vienna to BRÜNN, it receives the *Iglawa*, a large stream running from N.W. to S.E., which in its turn receives the *Schwarza*. —This last flows from north to south, passes near BRÜNN, capital of Moravia, defended by a citadel; population, 58,000; taken by the French in 1805 and 1809, by the Prussians in 1866; it receives below Brünn on its left the brook *Littawa*, which runs through a country of lakes and marshes, washing

AUSTERLITZ, a strategic position at the point of junction of the roads from Hungary to Brünn, and from Vienna to Olmütz; battle of 1805, won by Napoleon over the Austrians and Russians.

The March moreover receives on the right the *Russbach:* this brook, which flows through the Marchfeld, is crossed by the road from Vienna to Brünn, and has on its left bank some slopes called *Wagram,* which give their name to the village celebrated for the battle of 1809.

The basin of the March, which includes almost the whole of Moravia, is of great importance in wars between Prussia and Austria; by it the basin of the Oder is reached, or the heart of the Austrian dominions is attained; the rivers are easily crossed, the mountains practicable, the roads numerous; finally, the country is fertile, and affords supplies of all kinds.

4. The *Waag* rises in the block of the Tatra, flows through a populous valley in a semicircular course, 200 miles long, washes TRENTSCHIN and LEOPOLDSTADT, a fortress lying in a marshy plain. It terminates in the Neuhausler branch. Rapid, enclosed, liable to sudden floods; it receives numerous tributaries, such as the *Arva,* which flows among the mountains and washes the great fortress of ARVA; the *Neutra,* which flows in the level, and washes the citadel of NEUTRA, &c.

5. The *Gran* rises in the Carpathians, flows from N.E. to S.W., washes NEUSOHL, important on account of its manufactory of small arms and its copper mines; it leaves on its right KREMNITZ, and ends at Gran, after a course of 125 miles in length.

6. The *Ipoly* or *Eupel* flows through a mining country, 93 miles long, has in its basin SCHEMNITZ, celebrated for its gold and silver mines, and ends below Gran.

Tributaries on the Right. — 1. The *Traun* rises in the spurs which fringe the Enns, flows through several lakes surrounded by high hills, receives various streams of a torrent-like character, draining an impracticable country; washes GMUNDEN, a town surrounded by a double wall, and of importance on account of its bridge;—LAMBACH, engagements of 1800 and 1805, won by the French over the Austrians, road from Braunau to Vienna;—EBERSBERG, a formidable position on the road from Linz to Vienna, with a bridge 1,312 feet long, abutting on

the town, which is commanded by a castle and some precipitous heights; battle of 1809, where the French defeated the Austrians. It ends opposite Steyeregg, after a course of 80 miles long; it is a rapid, dangerous, of difficult navigation, and fordable in some places. It is a good military line. Its basin abounds in torrents, lakes, and rugged and distorted mountains.

2. The *Enns* rises in Mont Elend, flows from west to east through a very narrow, wild valley, hemmed in on the south by the Styrian Alps, on the north by a very rugged chain given off by the Hausrück, and whence the Traun rises. This valley in some places is such a narrow defile, that the river cannot escape through it, and forms a vast lake upwards. At the issue of this valley it receives the *Salza*, which runs from east to west in a direction precisely opposite to the Enns, and with it forms a continuous line hugged by two walls of mountains. It then disengages itself from these mountains, turns abruptly northwards, washes ALTENMARK, where the road from Leoben to Linz issues; passes by STEYER, a manufacturing town, with a castle and a manufactory of small arms, a strategic position at the confluence of two rivers and the meeting of three roads, celebrated for the armistice of 1800. It ends at ENNS, a very important position for covering Vienna, at the entrance to the mountains, which die away upon the Danube. — The Enns has a basin very much shut in by mountains of the grand Alpine character; its bridges are numerous and its fords few; it is a good military line, the importance of which is much enhanced by its two tributaries, the Salza and the Steyer; the former, which flows through a country rich in iron mines and forges, contains in its valley such terrible ravines, that the road is formed by a gallery hanging over the stream, and constructed of beams of wood let into the rock. Near MARIAZELL, on its course, is a cannon foundry.

3. The *Trasen* is formed by five streams, which rise in the Wiener Wald, and run through deep wooded valleys; it flows through a difficult country, passes by ST. PÖLTEN, a remarkable position in front of the Wiener Wald, and at the entrance of the defiles leading to Vienna; it terminates below Krems. It is rapid, tortuous, fordable in many places, and crossed by several bridges.

4. The *Leitha* rises in the Wiener Wald, flows from S.W. to

N.E., in a basin much hemmed in by mountains; it is slow, tortuous, and abounding in marshes; it passes near WIENER NEUSTADT, an Austrian military school; its basin contains the issues of the Semmering road, and terminates, after a course of 150 miles, in the Weiselburg.

5. The *Raab* rises in the Styrian Alps, flows in a circular course at first from N.W. to S.E., washes the ancient abbey of ST. GOTHARD, battle of 1664, won by the Turks over the Imperialists, runs through a country abounding in marshes and bogs, where the different arms of the Raab have long-pursued devious courses; from *Neusiedel* lake, an immense shallow marsh, it receives branches, of which the chief is the *Raabnitz*, which runs through the morass of Hansag; finally, it ends below RAAB, a fortified town, taken by the French in 1809, after a battle in which Eugène Beauharnais defeated the Austrians.

Political Divisions.—The second basin belongs to the Austrian Empire, and comprises the following provinces: 1, the Archduchy of *Austria*, capital Vienna; 2, the Marquisate of *Moravia*, capital Brünn; 3, portions of *Hungary* and *Styria*.—Vienna lies in the centre of the basin, hence its importance in a military point of view. The defence of the capital from an attack on the west is in the long defile on the right bank from Passau onwards, which is so intersected by torrent-like streams and perpendicular spurs whose feet dip into the Danube, that an army would find at each step advantageous positions disputing the advance of an enemy foot by foot. We have seen that this defile is traversed by a single road (in addition to a railroad), which runs through Linz, Enns, and St. Pölten; there is however another road in the mountains by Steyer and Waidhofen, but it turns to the left towards St. Pölten, in order to avoid the wild chain of the Wiener Wald; moreover, it abounds so much in difficulties, that the French, who had taken it in 1805, in order to establish an immediate connection between the army of the Danube and that of Italy, were forced to abandon it and to employ the great road by the river's side. It is thus obvious that the strategic importance rests with the right bank, the left has no roads parallel to the Danube, and we must go as far as Prague in order to find an army. In 1805 and 1809 the French sent no troops to the left bank except reconnoitring and patrolling

parties; only twice did they appear there in force: in 1805, when Mortier was surprised and surrounded by the Russians at Dürrenstein; and in 1809, when in the interval between the battles of Essling and Wagram, Bernadotte fought before Linz, an Austrian army, which had come down from Bohemia in order to make a diversion on the Danube. The left bank only becomes of importance when, after occupying Vienna and all the right bank, it is wished to pursue the Austrians into the Moravian redoubt, which is so favourable for a retreat by means of its communications with the north of Germany.

THIRD BASIN OF THE DANUBE.

General Aspect.—It is an immense plain, with scarcely any undulations, and not more than 400 feet above the level of the sea; it is intersected by large marshy rivers, stagnant waters, and saline and sandy deserts; rich in mineral products, in herds and flocks, in cereals, in horses and in wine; with no large towns and no great roads. It comprises about one half of the whole Danube basin, and contains the kingdom of Hungary, the theatre of so many battles betwixt the people of the north and south of Europe, and for long the bulwark of christianity against the barbarous tribes of Asia. The climate is not healthy generally, especially in the neighbourhood of the marshes, which cover more than 10,000 square miles.

Course of the River.—On issuing from its second defile, the Danube turns abruptly at a right angle, and runs due south in a vast bed abounding in islands and channels, where ships of forty guns could ride; in this state it washes BUDA or OFEN (right bank), the ancient capital of Hungary, with a great citadel, an arsenal, and a population of 55,000; it is said to have been the residence of Attila, and it belonged to the Turks from 1529 to 1686; it is connected by a bridge of boats and a chain-bridge with PESTH, a large town with a population of 130,000, the largest and busiest manufacturing town in Hungary. Below it the Danube divides into two branches, which embrace the island of Czepel; it then spreads out on either hand over the adjoining plains, which it converts into marshes, and receives by the muddy river *Sio*, or *Sarvis*, the waters of lake *Balaton* or *Platten See*, 40 miles long by 7 broad. It

washes Mohacz, battle of 1526, where King Louis of Hungary was defeated and killed by the Turks; battle of 1687, where the Turks were defeated by the Imperialists;—Vukovar, where it resumes its direction from west to east, and from this point to its mouth it describes a great segment of a circle, with the convexity facing south, the length of which is equal to that of its course from its source to Gran;—Peterwardein, a fortified town, battle of 1716, won by Prince Eugene over the Turks;—Szalenkement, battle of 1691, where the Austrians beat the Turks;—Semlin, a commercial town, near the confluence of the Save;—Belgrade, a very strongly fortified town, capital of Servia, the chief bulwark of the Ottoman empire against Austria, taken by the Turks in 1522 and 1690, by the Imperialists in 1658, 1717, and 1789, by the Serbs in 1806;—Semendria, a town defended by an old castle;—Orsova, a fortified town, situated on an island, and supported by a fort on the right bank. Here the river rushes with tremendous rapidity through the ravines which form its third defile. From Belgrade to Orsova it separates Hungary from Servia.

Tributaries on the Left.—1. The *Theiss* (Tibiscus) rises in Mount Galatz, flows from east to west through vast plains, bounded by the spurs of the Carpathians, where it receives a number of tributary streams, turns southwards, washes Tokay, famous for its wine; it runs parallel to the Danube, through an inundated country where its too low banks are fringed by impracticable marshes; it washes Szegedin, a fortified and manufacturing town with a population of 62,000; is connected with the Danube by the Franz or Baczer canal, and ends between Peterwardein and Belgrade, after a course of 700 miles in length. It receives a great number of tributaries, which, like itself, all flow through marshy countries:—1. The *Szamos*, on the left, which drains the Eastern Carpathians, and one of whose sources washes Kolosvar or Klausenburg, capital of Transylvania, defended by a wall and a fort, the birthplace of Matthew Corvinus.—2. The *Bodrag*, on the right, which contains in its basin Unghvar, a strong castle on the road from Pesth to Lemberg, and Munkacz, a citadel, celebrated in the Hungarian wars; these two places defend the issues of the Central Carpathians.—3. The *Hernath*, on the right, washes Eperies, a large ill-fortified town.—4. The *Körös*,

on the left, formed by three rivers of the same name, one of which washes GROSS WARDEIN, a fortified town.—5. The *Maros*, on the left, rises in the Carpathians, runs from S.E. to N.W., washes KARLSBURG, a fortified town, celebrated for its gold mines;—ARAD, a fortress; and, after a course of 500 miles, ends at Szegedin. Its upper basin contains a part of the plateau of Transylvania, a very remarkable military country, which seems like an advanced bastion of Austria between Moldavia and Wallachia.

2. The *Temes* rises in the Carpathians, washes KARANSEBES, a fortified town, defending the Transylvanian pass called Iron Gate, passes near TEMESVAR, a fortress, the chief town of the Banat, and ends below Belgrade, after a marshy course, intersected by channels and branches, among which it is impossible to distinguish the main stream.

Tributaries on the Right.—1. The *Drave* or *Drau* (Dravus) has two sources, one of which rises in the Drei Herrn Spitz (at a height of 4,021 feet), and the other in the Toblach pass; it runs from N.W. to S.E., bounded on the north by the Styrian Alps, on the south by the Carnic Alps, and washes LIENZ, at the issue of the Toblach pass;—VILLACH, where the roads from Salzburg, Innsbruck, Vienna, and Tarvis meet. It passes near KLAGENFURTH, capital of Carinthia; washes MARBURG, road from Laybach by Grätz to Vienna;—WARASDIN, a fortified town, through which passes the road from the Adriatic by Karlstadt and Körmond to Vienna; it then commences to lose its rapid slope, and overflows the adjoining land, which it converts into marshes; it then washes ESZEK, capital of Slavonia, defended by a large fortress, remarkable for a series of bridges thrown across the Drave and the marshes, by which the Turks penetrated into Hungary. It ends after a course 400 miles in length.

It receives on its left the *Muhr*, which rises in Mount Elend, and flows from west to east, washing ST. MICHEL;—JUDENBURG;—LEOBEN, famed for the armistice of 1797;—BRUCK, a very important position, at the confluence of the Mürz and Muhr, and at the curve made by the latter in order to run in a southerly direction; here the roads from Villach, Grätz, Vienna, and St. Pölten, meet. Then it flows from N.W. to S.E., and washes GRÄTZ, capital of Styria, formerly a very strongly

fortified town, but which has now only a wall and the remains of a citadel; finally, it flows parallel to the Drave, which it gradually approaches until its confluence.—This river is very important, on account of its twofold direction, and the communications it opens to Vienna; it flows among very difficult mountains, and is strategically connected with the Upper Drave, from which it is separated by the Carinthian Alps. The Upper Drave and the Muhr play an important part in simultaneous operations on the Danube and Po, as the two armies can only be connected by their basins; Klagenfurth and Bruck are their strategic points.

2. The *Save* or *Sau* (Savus) rises in Mount Terglou, and flows from N.W. to S.E., bounded by the Croatian and Dinaric Alps. It passes near LAYBACH, capital of Carniola, on the road from Trieste to Vienna, defended by a castle;—flows by AGRAM, a fortified town, capital of Croatia;—GRADISKA, a fortified town, opposite which is the Turkish fortress of BERBIR;—BROD, a fortified town;—MITROWICZ, situated near the ancient SYRMIUM, metropolis of Illyricum;—SCHABACZ, a Serb town, defended by a castle and badly built ramparts; finally, Belgrade, where it ends after a course 370 miles in length, during part of which it separates the Austrian from the Ottoman empire. It often overflows its banks, changing the adjoining plains to marshes.

Its tributary streams come from the Dinaric Alps; they are:—1. The *Kulpa*, which washes KARLSTADT, a fortified town.—2. The *Unna*, which separates Austria from Turkey, and passes by BIHACZ, NOVI, and DUBICZA, three small Turkish fortresses by which the Austrians were stopped in 1789.—3. The *Verbas*, which flows by JAICZA, the ancient capital of Bosnia, a fortified town that has stood many sieges, and BANYALUKA, a large town defended by a castle and three redoubts.—4. The *Bosna*, which runs near BOSNA SERAI, capital of Bosnia, a busy commercial town, with a strong citadel and 70,000 inhabitants; after having received a tributary that washes TRAUNIK, a town defended by a bad castle, it washes VRANDUK, a very high castle on an inaccessible rock; MAGLAJ, a citadel commanding the river.—5. The *Drina* washes ZVORNIK, a fortified town; LOSNICZA, a badly fortified town, where the Turks were beaten by the Austrians in 1789; it separates Bosnia from Servia.

Bihacz, Banyaluka, Zvornik, and Belgrade, are the defences of the Turkish frontier. The basins of the Unna, Verbas, Bosna, and Drina, compose the province of Bosnia; a fertile, well-watered country, covered with magnificent forests, crossed by bad roads impracticable for artillery, abounding in rivers and defiles, bristling with fortresses and towers, inhabited by a courageous race; it is very difficult to conquer, without having recourse to a grand operation which should separate it from Turkey, by marching an army from the Save to Bosna Serai, as was done in 1697 by Prince Eugene. It is the bulwark of the Ottoman Empire.

3. The *Morava* (Margis) is formed by two streams. The *Western Morava* has in its basin UJICZA, a town defended by a strong castle, and passes near KRUSCHEVACZ; it receives the *Ibar*, whose basin is the most remarkable part of Turkey in Europe in a military point of view, occupying as it does the middle of that country. It is a high terrace, by which Servia can be turned and Albania, Macedonia, Thrace, &c., penetrated. The river runs through the plain of *Kossova*, the great highway of so many armies, the theatre of the battle of 1389, where Amurath I., the conqueror of the Bosnians and Serbs, was assassinated; and of the battle of 1448, where Amurath II. defeated the Hungarians; it flows by PRISTINA and near NOVI BAZAR, capital of a division of that name in Bosnia, and formerly called *Rascia*, defended by an old castle.—The *Eastern Morava* washes NOVA BERDA, and receives the *Nissava*, which rises in the densest mass of the Veliki Balkan, and passes by NISSA (Naïssus), the birth-place of Constantine, with a fortress that defends the great defile of Trajan, celebrated for the victory of the Imperialists over the Turks in 1689. When the two rivers join, the Morava flows due north, has in its basin KRAGOJEVACZ, the residence of the princes of Servia, leaves on its right PASSAROVICZ, famed for the treaty of 1718, and ends below Semendria.—The basin of this river embraces the greater part of *Servia*, a mountainous and wooded country, very favourable for guerilla warfare; it has been the theatre of innumerable battles between the Turks and its inhabitants.

Political Divisions.—The third basin of the Danube comprises the following countries: [illegible]*a*, *Carinthia*, and *Carniola*,

provinces of the Austrian Empire, inhabited by Slavonic races, but notwithstanding that included in the extinct Germanic Confederation.

2. *Hungarian countries*, that is to say, territories which belonged to the crown of Hungary, and now forming the governments of *Hungary proper*, *Croatia* and *Slavonia*, *Servian Voivodia* and *Banat*, the *Military frontier*, and *Transylvania*. All these countries, differing as they do in origin, language, and manners, have had for centuries a common destiny. The population, numbering 14,600,000, includes 5,100,000 Slavons, 5,000,000 Magyars, 1,500,000 Germans, 2,600,000 Roumans, and 400,000 Jews. As regards religions, there are 8,600,000 Catholics, 2,800,000 Greeks, 2,800,000 Protestants, and 400,000 Jews. All these peoples formerly belonged to the kingdom of Hungary, which was long independent and the bulwark of Europe against the Turks, and which, in 1526, became a possession of the house of Austria, but it retained its privileges, its separate existence, its national assemblies, who alone made its laws, &c. The insurrection of 1848 and the events that followed it, brought about the abolition of the liberties of Hungary, the suppression of the national diet, and the destruction of the feudal regime and of the privileges of the nobility. This kingdom, so long free and more the ally than the vassal of Austria, became merely a province of Austria, cut up into several provinces: 1, *Hungary proper*, with only 9,900,000 inhabitants; 2, *Croatia* and *Slavonia*, *Voivodia* with the *Banat*, the *Military Frontier*, Slavonic countries formerly subject to the Hungarian crown. In the insurrection of 1848, they espoused the part of Austria against the Hungarians, and after the war they were rewarded by being formed into three governments independent of Hungary. Croatia and Slavonia contain 876,000 inhabitants; Voivodia with the Banat of Temes, 1,574,000 inhabitants; the Military Frontier, 1,060,000 inhabitants. This *Military Frontier* (militärische Grenze) is composed of great colonies founded during last century, for the purpose of protecting the frontier against the depredations of the Turks; now-a-days it is a sort of nursery of excellent soldiers for Austria. The inhabitants are arranged according to their villages into regiments and companies, subject to military discipline. In peace they furnish about 50,000 soldiers, with a

reserve of 40,000 ; in war their effective force can be doubled. Since 1866 Austria has been compelled to restore to Hungary those liberties she was deprived of in 1849. Hungary has now her own constitutional government, her separate ministry, and the States formerly belonging to the Hungarian Crown have again been replaced, to a certain extent, in their former relation towards her. The Emperor of Austria had to submit to be crowned King of Hungary, in Pesth, in 1867.

3. The principality of *Bosnia*, which forms part of the Ottoman Empire. Bosnia, though Mahometan, is rather the ally or even the enemy than the subject of Turkey, which looks upon its inhabitants as semi-infidels, on account of their European manners and their Slavonic origin ; she governs herself, applies the tribute she pays to the military expenditure of the province, despises the Ottomans, and remembers that she had her own kings for several centuries.

4. The principality of *Servia*, a tributary of the Ottoman Empire, Christians, of Slavonic race. Her fortified towns, are held by Turkish garrisons, but no Ottoman subject can establish himself there ; she has moreover a government of her own, and a sovereign elected by herself.—The Serbs, established in the Grecian empire since the seventh century, were at first subject to the Bulgarian kings and to the emperors of Constantinople ; they then formed an independent kingdom for more than four centuries, and extended their dominion all over the Grecian peninsula ; they then divided themselves, and after the battle of Kossova, fell under the dominion of the Turks. They succeeded in regaining their independence in 1817. It is the most interesting population of the Ottoman empire, by reason of its dignity, its bravery, and the great part it has played in Eastern Europe.

FOURTH BASIN OF THE DANUBE.

General Aspect.—It is a flat, inundated, and marshy country near the river, dry, hilly, and difficult as we approach its encircling belt ; it is fertile in everything, but ill-cultivated, scantily peopled, with bad roads and paltry towns. The field of battle of all the barbarous tribes who [illegible]red into Europe from the Northern Steppes and from the [illegible]nt, it has been in turn devastated by Sarmatians, Got[illegible]s, Avars, Kumans, Bulga-

rians, &c.; after these came the Turks, who have oppressed it for three centuries.

Course of the River.—On issuing from its third defile it flows in a very wide bed, containing some large islands, forming a labyrinth of lakes and marshes, and often occupying a breadth of from 10 to 12 miles with its different channels. It washes WIDIN, a fortified town, one of the three great Turkish fortresses on the Danube; battle of 1689, won by the Imperialists over the Turks;—NICOPOLI, a town dismantled by the Russians in 1828, battle of 1396, won by the Turks over the Christians;—SISTOVA, defended by an old enceinte, taken by the Russians in 1810;—RUSTCHUK, one of the three great Turkish fortresses; battle of the Russians and Turks in 1810;—GIURGEVO, a dismantled Wallachian town;—SILISTRIA, one of the three great Turkish fortresses, taken by the Russians in 1810, vainly besieged by them in 1854;—RASSOVA, beyond which the river runs in a northerly direction;—HIRSHOVA, defended by a castle;—MATCHIN;—BRAHILOW, or IBRAIL, dismantled, the chief commercial town of Wallachia;—GALACZ, a flourishing Moldavian port, after which the river resumes its eastern direction;—ISAKCHI, a town formerly fortified. Below this town it divides into two great arms, which embrace an inundated delta; the northern branch passes by ISMAIL, a fortified town, taken and pillaged by Suwarow in 1790, and KILIA, below which it terminates by several marshy mouths; the southern branch divides at TULTCHA, formerly a fortified town, into two other branches, which run into the Black Sea. This rectangular peninsula, comprised between the sea and the course of the Danube from Rassova to Kilia, is called the *Dobrutcha*. It is a flat and marshy country, the ordinary route of the invasions of the barbarians, celebrated in the operations of 1854.

From Orsova to Galacz, the Danube separates Servia and Bulgaria from Wallachia. From Galacz its mouths belong to Moldavia by the treaty of 1856. In commercial and military respects, the lower Danube is not of so much importance as it ought to be, considering the volume and extent of its waters, on account of the low state of civilization of the people who live upon its banks, and particularly on account of its mouths belonging to states foreign to other parts of its basin; this

circumstance is especially injurious to Austria, an eminently Danubian power, which, planted in the middle of a river of which she holds neither the source nor the mouth, could only find an outlet for the products of Hungary if the fourth basin of the Danube belonged to her, or constituted a neutral state.—Total length of the river 1,600 miles. Its fall to Donaueschingen is about 2,230 ft., to Ulm about 880 ft., to Passau about 1,840 ft., to Vienna about 525 ft., to Pesth about 236 ft.

Tributaries on the Left.—1. The *Chyl* or *Schyl* rises in the Carpathians and washes KRAJOVA.

2. The *Aluta* rises on the western side of the Carpathians in the third basin, runs from N.E. to S.W., as if about to join the Maros, leaves on its left KRONSTADT, the principal town of Transylvania, with a population of 40,000, defended by an old citadel; and on its right HERMANSTADT, capital of Transylvania, defended by an old castle; it suddenly turns to the south, cuts through the mass of the Carpathians at the Red Tower pass, continues its course in the fourth basin, where it washes SLATINA, and ends opposite Nicopoli.

3. The *Arjish* receives the *Dumbovicza*, which washes BUCHAREST, capital of Wallachia; pop., 100,000; it ends near OLTENIZA, victory of the Turks over the Russians in 1854.

4. The *Sereth* rises in the Carpathians, washes SERETH, traverses the whole of Moldavia from north to south, receives the *Milkov*, which passes by FOKTCHANY and ends at Galacz, after a course of 200 miles in length.

5. The *Pruth* rises in Mont Czorna, washes CZERNOWITZ, receives the *Baglui*, a long series of muddy lakes, which flows by JASSY, capital of Moldavia; pop., 80,000; it passes near HUSCH, where Peter the Great was beaten by the Turks in 1711, and ends at RENI.—It forms the boundary between Moldavia and Russia.

The upper basins of the Sereth and Pruth form the Bukowina, an Austrian province belonging to the eastern side of the Carpathians. This fertile, picturesque, and populous country was taken by Austria from Moldavia on the plea that it was required by her in order to be able to flank easily those of her provinces that face Russia, to furnish a military line of communications between Galicia and Transylvania, finally, in a war

with Russia, to secure to the Austrians the country commanding the positions of their enemy.

Tributaries on the Right.—They are numerous but not of any great size, yet they are important by the communications they open in the Balkans: we need only mention the *Isker*, which passes by SOPHIA, a large town of 40,000 inhabitants, anciently the capital of Bulgaria, situated in the middle of a mountainous basin on the road from Constantinople to Belgrade, and at the issue of the defile of Soulu Derbend. It is defended by a wall flanked by towers.

Coasts from Cape Fanaraki to the Mouths of the Danube.—Precipitous in the southern part and in the vicinity of the Balkans, they are low and marshy in the northern part and in the vicinity of the Danube, where they form great lakes. There are but few ports: 1, MIDIAH (Salmydessus), with fortifications built by the Genoese; 2, SIZEBOLI, a small fortress taken by the Russians in 1829; 3, BURGAS, an indifferent harbour, badly fortified; 4, VARNA, at the mouth of the Pravadi, a military port which commands the coast road towards Constantinople; battle of 1444, which decided the conquest of Greece by the Turks. It was from this port that the combined British and French army, in 1854, embarked for the Crimea. This town lies in a little basin of which Capes Kalakria and Emineh are the extremities, and at the head of which lies Schumla.—SCHUMLA, a large manufacturing town, where the roads from Ismail, Silistria, and Rutschuk to Constantinople meet, is the bulwark of the Ottoman empire against Russia, and one of the strongest fortresses in Europe by its position and works. It is an immense intrenched camp, surrounded by low fortified hills, and defended by a castle that commands the whole of the plateau. It was vainly besieged by the Russians in 1811 and 1829.

Political Divisions.—The fourth basin of the Danube comprises the following states:

1. The principality of *Wallachia*, naturally bounded by the Carpathians, the Danube, the Sereth and the Milkov, which separates it from Moldavia.

2. The principality of *Moldavia*.

The Wallachians and Moldavians are the descendants of the Dacians, mingled with [redacted] colonies planted by Trajan

beyond the Danube; accordingly the natives call themselves *Roumani* or Romans, and their language as nearly resembles Latin as does that of the Italians. Their population amounts to between 5 and 6 millions, who inhabit not only Wallachia and Moldavia, but Hungary, Turkey, Greece, &c. After having been trampled on by all the northern barbarians, they fell under the sway of the Bulgarians and then under that of the Hungarians, they remained for some time independent, were subdued by the Turks, who allowed them to retain their religion, their laws and even their government, but overwhelmed them with taxes, garrisons, and tyrannies of all kinds. At present these two states are nominally vassals of the Ottoman Empire, to which they pay tribute; but they form, under the protection of the five great European powers, a single state which governs itself and which has a National Assembly with a prince (Hospodar) elected by the population and confirmed by the Sultan. Wallachia and Moldavia have need of a long period of repose in order to recover from the ills caused by four centuries of oppression; these countries, which have the advantages of a mild climate and a fertile soil, are ill cultivated, scantily peopled, scarcely civilized, deficient in towns and roads. The French language is much employed, it is the basis of public instruction.

3. A portion of *Bessarabia*, a Russian province.

4. *Bulgaria*, an Ottoman province, inhabited by industrious but rude Christians, of Tartar origin, who settled in Thrace in the sixth century. The Bulgarians formed an independent state, which lasted 400 years, and their dominion extended into Epirus; conquered by the Greeks, they were in turn vassals of the emperors of Byzantum, of the Hungarians, of the Serbs, until 1389, when they fell under the sway of the Turks.

§ VII. STATISTICS.

SUPERFICIAL DIMENSIONS IN SQUARE MILES.	POPULATION.	ARMY.	NAVY.	REVENUE IN POUNDS STERLING.	DEBT IN POUNDS STERLING.
Empire of Austria.					
238,894	33,908,836	579,989	117 vessels.	49,500,423	264,245,284
NORTH GERMAN CONFEDERATION.					
Kingdom of Prussia.					
112,977	19,304,843	647,002	84 vessels.	26,090,210	42,123,064
States annexed to Prussia.					
Kingdom of Hanover.					
14,645	1,923,492	...	...	3,118,034	6,423,955
Electorate of Hesse Cassel.					
3,546	737,283	...	...	766,615	1,845,892
Duchy of Nassau.					
1,755	466,014	...	...	397,445	503,191
Territory of Frankfort.					
20	89,837	...	...	252,906	1,282,735
Duchies of Slesvig and Holstein.*					
6,651	948,392	...	...	1,052,616	3,391,500
Quasi-Independent States.					
Kingdom of Saxony.					
5,768	2,843,994	25,396	...	2,048,897	8,862,049
Principality of Reuss Greiz.					
144	43,924	344	...	30,000	30,700
Principality of Reuss Schleitz.					
447	86,472	783	...	44,301	105,499
Duchy of Saxe Weimar Eisenach.					
1,419	280,201	3,685	...	259,519	675,000
Duchy of Saxe Meiningen.					
971	178,065	2,110	...	164,908	276,315

* These are not all the territories that Prussia has gained by the war of 1866. Bavaria was forced to yield to her 206 square miles of territory, with 32,976 inhabitants; and Grand Ducal House had to give up upwards of 400 square miles, with 75,102 inhabitants, including the whole Landgravate of Hesse Homburg.

SUPERFICIAL DIMENSIONS IN SQUARE MILES.	POPULATION.	ARMY.	NAVY.	REVENUE IN POUNDS STERLING.	DEBT IN POUNDS STERLING.
	Duchy of Saxe Altenburg.				
520	141,839	1,473	...	131,835	35,634
	Duchy of Saxe Coburg Gotha.				
798	164,527	2,046	...	128,793	189,506
	Principality of Schaumburg Lippe.				
207	31,382	516	...	34,200	...
	Principality of Schwarzburg-Rodolstadt.				
330	73,752	989	...	71,731	...
	Principality of Schwarzburg Sondershausen.				
328	66,189	826	...	94,282	225,931
	Principality of Waldeck.				
425	59,143	866	...	78,190	225,000
	Grand Duchy of Mecklenburg Schwerin.				
4,842	552,612	5,386	...	493,912	1,177,492
	Grand Duchy of Mecklenburg Strelitz.				
1,080	99,060	1,317	...	...	...
	Grand Duchy of Oldenburg.				
2,478	301,812	4,089	...	332,985	621,585
	Duchy of Brunswick.				
1,531	292,708	5,359	...	255,400	1,708,207
	Duchy of Anhalt.*				
882	193,046	1,836	...	578,850	516,784
	Principality of Lippe.				
456	111,336	1,200	...	41,086	55,359
	GERMAN STATES NOT BELONGING TO THE NORTHERN CONFEDERATION.				
	Kingdom of Bavaria.				
29,298	4,774,464	221,236	...	3,893,383	27,867,112
	Kingdom of Würtemberg.				
7,598	1,748,328	29,392	...	1,422,966	7,033,911
	Grand Duchy of Baden.				
5,776	1,429,199	18,402	...	1,576,538	9,256,728
	Grand Duchy of Hesse Darmstadt.				
2,957	816,902	11,751	...	791,417	1,166,416

* The Duchy of Anhalt now includes the former Duchies of Anhalt Coethen, Anhalt Dessau, and Anhalt Bernburg.

SUPERFICIAL DIMENSIONS IN SQUARE MILES.	POPULATION.	ARMY.	NAVY.	REVENUE IN POUNDS STERLING.	DEBT IN POUNDS STERLING.
		Principality of Liechtenstein.			
52	7,994	70	...	4,591	...
		Free Town of Hamburg.			
149	251,000	2,163	...	693,758	5,011,687
		Free Town of Bremen.			
10	104,091	760	...	267,116	1,716,080
		Free Town of Lübeck.			
129	50,614	612	...	101,520	1,221,945
		NON-GERMAN STATES.			
		Kingdom of the Netherlands with the Duchy of Luxemburg.*			
13,195	3,735,682	61,087	146 vessels.	9,187,486	81,790,798
		Kingdom of Denmark.†			
15,030	1,608,095	30,000	103 vessels.	1,501,823	29,714,930

CHAPTER V.

ITALIAN REGION.

§ 1.—GENERAL IDEAS.

From the Central Alps, there are given off, to the S.W. and S.E., two great semicircular chains, which enclose an immense valley, and isolate it from the rest of Europe. This continental valley, a long narrow peninsula attached to the south part of it, together with three large and a few small islands on the west side, make up the *Italian region*, the natural limits of which are thus as perfectly marked out as though this region were an island. It is comprised between N. lat. 35° 45′ and 47° 10′, from the southern point of the island of Malta to the Drei Herrn

* Colonies.—Oceania: The Moluccas, Java, Sumbava, Timor, parts of Sumatra, Borneo, the Celebes, &c.—Africa: Elmina, &c.—America: Guiana, Curaçao, St. Eustache, Saba, St. Martin.

† Colonies.—America: St. Croix, St. Thomas, Iceland, Greenland, Faroe Islands.

spitz, and between E. long. 6° 35′ and 18° 30′, from Mont Thabor to the port of Otranto. The continental part is almost semicircular in shape, with a radius of 150 miles and a superficies of 38,610 square miles; it is separated from the French region by the Western Alps, and from the German region by the Eastern Alps. The peninsular portion is a sort of trapeze, whose largest diameter runs from N.W. to S.E., and which is bounded on the north by the continental part, on the west by the Mediterranean, on the east by the Adriatic, and on the south by the Ionian sea: its two great sides are from 500 to 520 miles long, and the other two, from 150 to 200; it has a superficies of about 46,330 square miles. The insular portion, formed principally of Corsica, Sardinia, and Sicily, has a superficies of about 30,880 square miles.

This region, one of the most renowned in the world on account of the great events of which it has been the theatre, is also one of those most favoured by nature by a soil bringing forth everything in abundance, by its sky, whose beauty is proverbial, by the rivers by which it is well watered, by the great length of its coasts, finally by an immense wall of mountains which protects it on the north, and which has never been passed without great difficulties. Placed, so to speak, in the centre of the Mediterranean, as long as that sea was the only known European sea, it held sway over Europe and a part of Africa and Asia; but after political and martial power had passed to regions situated on the Atlantic, it was often invaded and conquered by the Northern tribes, particularly by the French and the Germans, and for centuries it remained unable to give its inhabitants an independent fatherland. There is a defect in its physical situation which neutralizes the fertility of its soil, the character of its people, the excellence of its natural frontiers: it is too long for its breadth, and the inhabitants of the continental part, of the peninsula and of the islands, being separated by great distances and by differences of interests and manners, have never been able to regard one another as fellow-countrymen; and so have always been at war with one another. In ancient times it was divided into three separate populations, who had nothing in common: the Gauls in the north, the Italians in the middle, the Greeks in the south; in mediæval

times it was cut up into a number of small states, republics, principalities, kingdoms, always rivals, often enemies; in modern times, the Italians, divided into several states under the dominion of the house of Austria, began to regret that the local liberties, so dear to their ancestors, had not been concentrated in a monarchy which would have given them unity and a fatherland; and at length, in quite recent times, under the protection of France and the impulse of the house of Savoy, they have succeeded in forming almost the whole of Italy into a single kingdom, which presents every sign of permanence.

The water-parting, with the exception of the Central Alps, is an independent appendage of the great European water-parting; it is very strongly marked and is composed of: the Central, Pennine, Graian, Cottian, and Maritime Alps for the western part of continental Italy; of the Apennines for the whole peninsula; of the Central, Rhætic, Carnic, and Julian Alps for the eastern part of continental Italy, the latter being connected with the Hellepic peninsula by the Dinaric Alps.

It forms two principal watersheds: one towards the Adriatic, which gives the basins of the Po, the Adige, and several other streams; the other towards the Tuscan and Sicilian Mediterranean, which gives the basins of the Arno, the Tiber, the Volturno, &c.

§ II.—HISTORY OF THE GEOGRAPHY OF ITALY.

The three races inhabiting Italy in ancient times were divided into a number of independent nations. Among the Cisalpine Gauls, who principally inhabited the valley of the Po, there were the Cenomani, the Lingones, the Boii, the Senones, &c.; a people of Iberian race, the Ligures, inhabited both sides of the mountains which fringe the Gulf of Genoa; finally, between the Tridentine Alps and the Adriatic Sea, there were the Veneti, the Carni, the Istri, &c. The upper part of the peninsula comprised Tuscia or Etruria, Umbria, Picenum, Sabinia, the Vestini, the Marucini, the Latins, the Samnites, &c. In the lower part or Magna Græcia, were Campania, Apulia, Lucania, and the land of the Bruttii.

Rome first subdued the nations of Italian origin. She then attacked those of Magna Græcia, then those of the islands, and,

lastly, the Cisalpine Gauls, after the submission of whom Italy, united under one rule, went forth to conquer all the countries bordering on the Mediterranean. The Roman empire, in its organization, was divided into sixteen provinces, and formed part of the Western Empire.

The first barbarians who invaded it were Germans in the pay of the emperors. One of these, of the tribe of the Heruli, assumed (in 476) the title of King of Italy, and the name of Western Empire became extinct. The Ostrogoths, under their king Theodoric, expelled (483) these invaders, and founded a more regular dominion, which lasted sixty years. The Eastern Emperors wrested Italy from them; and for two hundred years Italy received its laws from Constantinople. But the Lombards arrived, and established themselves in continental Italy. The bishops of Rome, who sought to obtain temporal power, procured the aid of the Franks against them. The latter, under Pepin and Charlemagne, overthrew the dominion of the Lombards, and created a kingdom which extended south as far as the Vulturnus and Aufidus. The rest of the peninsula was under the sway of the Duke of Beneventum, a tributary of the Eastern Emperors; the islands were conquered by the Saracens, and disputed by the Franks. Charlemagne speedily re-established the Western Empire, and Italy seemed to recover its Roman existence; but after the battle of Fontanet, it became a separate kingdom, and, for a period of seventy-three years of wars and anarchy, ten princes reigned over it, who almost all wore the Imperial crown. Finally Otho the Great, King of Germany, conquered Italy, called himself king thereof, and assumed the Imperial dignity, which he transmitted to his successors to the throne of Germany and Italy (see *History of the Geography of Germany*, p. 249). The Italians resisted the Teutonic rule for several centuries; and the Popes, who put themselves at the head of the Italians, succeeded in almost annihilating the power of the Emperors.

In the meantime Southern Italy remained under the sway of the Greeks; but the Saracens made incursions into it. Some Norman adventurers arrived in the country, drove out the Saracens, conquered Calabria, Apulia, and Sicily, and founded (1053) the kingdom of the Two Sicilies, tributary to the Popes,

who employed them successfully in resisting the emperors. But this kingdom, having passed (1194) by inheritance to the house of Hohenstauffen, which was invested with the imperial dignity, the Roman pontiffs waged implacable war against this house until they destroyed it. Taking advantage of this strife between the Papacy and the German Empire, many of the Italian towns formed themselves into republics, which had a glorious existence. The first of these were Venice, Genoa, Pisa, Florence, and soon afterwards arose Milan, Pavia, Padua, Lodi, Mantua, Parma, Piacenza, &c. In vain did the Emperors invade Italy in order to establish their authority; they were defeated, and forced to recognize the liberty of these republics. But scarcely were the latter delivered from the fear of foreign invasion than they attacked one another; Venice, Milan, and Florence brought beneath their sway several neighbouring towns; and, through these discords, some men succeeded in attaining to absolute power in these republics, so rich and so cultivated, but addicted to perpetual agitations. Thus it was that the house of Este possessed themselves of Modena, Reggio, and Ferrara, that the Gonzaga reigned at Mantua, the Visconti at Milan and soon afterwards over the whole of Lombardy. Florence, the queen of the republics in the middle ages, fell at length under the dominion of one of these patrician families, the Medici. Venice and Genoa alone retained the republican form of government. (See these towns.)

The Popes invited (1266) the house of Anjou to replace that of Hohenstauffen on the throne of Naples; but, by the massacre of the Sicilian Vespers, that house lost Sicily, which passed to the house of Aragon, which in its turn became extinct at Naples in 1382. A brother of the King of France, Charles V., was called to the throne of Naples, and became the stem of the second house of Anjou; but this house could not take possession of the crown, which was contested with them by a bastard branch of the house of Aragon. The kings of France, Charles VIII. and Louis XII., inherited the rights of this house of Anjou, and endeavoured to assert them; but they were baulked in their conquest of Naples by Ferdinand the Catholic, King of Aragon, who, already master of Sicily and Sardinia, succeeded in obtaining Naples, and transmitted all these crowns to his grandson Charles V. Finally, this latter having acquired the duchy of

Milan, of which the Visconti had been deprived by the Sforza, and these again by Louis XII. and Francis I., the Spaniards became the ruling power in Italy.

It was during these wars between the Spaniards and the French that the Popes succeeded in consolidating their temporal power in the centre of Italy, and in creating a state extending over the Adriatic watershed from the Po to the Tronto, and over the watershed of the Tyrrhenian sea in the basin of the Tiber. Parma and Piacenza, conquests of Julius II., were detached, in 1545, from the States of the Church by Paul III., and given to his son Farnese, whose house retained possession of them until 1731. Another state arose in the midst of their quarrels: this was Piedmont, which since the twelfth century had been held by the house of Savoy, which aggrandized itself by several successive acquisitions beyond the Alps, such as Nice, the county of Geneva, &c.; this little state lying between Austria and France, acquired by its position great influence; and alternately the ally of both these rival powers, it emerged from all their wars with an increase of power.

Italy remained in this state until the Spanish branch of Austria became extinct; it then underwent new changes: by the treaty of Rastadt, the German house of Austria obtained Naples, the Milanese, and Sardinia; and it afterwards despoiled the Duke of Mantua of his duchy. The Austrian power then became predominant in Italy.

In 1731, the house of Farnese becoming extinct, Parma and Piacenza fell to the house of Austria, and then to an infant of Spain; the house of Medici coming to an end about the same time, the Grand Duchy of Tuscany was given to Francis, Duke of Lorraine, and subsequently Emperor; finally, the kingdoms of Naples and Sicily were adjudged by the treaty of Vienna (1735) to Don Carlos, infant of Spain.

Such then was the state of Italy at the termination of the eighteenth century: the kingdom of the Two Sicilies, governed by a Spanish branch of the Bourbons; the States of the Church, comprising the central part of the peninsula and the Adriatic coast as far as the Po; the Grand Duchy of Tuscany, belonging to a branch of the house of Austria; the duchies of Parma and Piacenza, to a Spanish Bourbon; the Milanese to Austria;

Piedmont to the Dukes of Savoy; finally, Genoa and Venice, independent republics, but much diminished in power, possessed the remainder of Italy.

The French revolution upset all these states. In 1797 Napoleon made the Milanese, Modena, Bologna, Ferrara, the Romagna, and a portion of the Venetian states into the Cisalpine Republic; in 1802, he united Piedmont to France, made Tuscany into the kingdom of Etruria, aggrandized the Cisalpine Republic, which became the Italian Republic. In 1805, the republic of Genoa, since 1798 the Ligurian Republic, was incorporated with France; Parma and Piacenza underwent the same fate; Piombino and Lucca became small sovereign states. In 1806, the kingdom of Naples went to a prince of Napoleon's family; the Venetian provinces were united to the Italian Republic, now become the kingdom of Italy; the kingdom of Etruria was annexed to the French Empire; finally, in 1809, the States of the Pope having been incorporated with the great empire, the whole of Italy came under the dominion of France.

This state of things lasted till 1814, when Italy was divided as follows: Piedmont and the states of Genoa to the King of Sardinia; the Milanese and the Venetian states to the Emperor of Austria, who formed them into the Lombardo-Venetian kingdom; Parma and Piacenza, first to the Archduchess Maria Louisa, then to the branch of the Bourbons who formerly held it; Modena to an Austrian prince; the Grand Duchy of Tuscany to an Austrian prince; the States of the Church to the Pope; the kingdom of the Two Sicilies to the house of Bourbon.

For fifty years Italy remained in this condition, that is to say, more or less directly under the dominion of Austria; but since 1848, and especially since 1859, this country seems destined to a complete renovation and has begun to form a great nation. In 1859 the arms of France wrested Lombardy from Austria, and it was added to the kingdom of Piedmont; the duchies of Tuscany, Parma, and Modena drove out their rulers and voted their annexation to the same kingdom; the greater part of the States of the Pope threw off the pontifical yoke to join themselves to Piedmont; finally, the Piedmontese annexed the kingdom of the Two Sicilies. The persevering attacks of the

Italians and the victories of Prussia in 1866 forced Austria to cede Venetia to the Italians. Nothing Italian now remains outside of the new kingdom of Italy but Rome, with its limited territory, the only remnant of the States of the Church.

§ III.—CONTINENTAL ITALY.

BASINS OF THE PO, ADIGE, BACCHIGLIONE, BRENTA, PIAVE, LIVENZA, TAGLIAMENTO, AND ISONZO.

The basin of the Po, together with some other small streams which run into the Adriatic to the N.E. of its mouth, forms a semicircular space, only open towards the Adriatic, and surrounded on all its other sides by a dense range of mountains, which separate it from the basins of the Rhone, Rhine, and Danube. It is formed: 1, by the south side of the Central and Pennine Alps, the east side by the Graian and Cottian Alps, the north side of the Maritime Alps and Northern Apennines; 2, by the south side of the Rhætic Alps, and the west side of the Carnic and Julian Alps.

Mountains of the Western Belt.—The Central, Pennine, Graian, Cottian, and Maritime Alps, or Western Alps, form a tortuous curve, 350 miles in length. (They have been described in the basin of the Rhone: see p. 176.) The southern watershed of these chains throws off some very short branches, mostly perpendicular to the crest, so that the belt has an abrupt and steep incline on its interior, whilst on its exterior it falls by slow and gentle gradations. Hence at Turin, on the Po, we see extending all round us a vast plain quite level to the very foot of the Alps, which rise up suddenly like a wall enclosing a garden; from Geneva on the Rhone, on the contrary, the eye travels by degrees from the lowest hills to peaks crowned by eternal snow. On this side we find freshness, streams, pasturage; on that, sterility, frightful torrents, naked and perpendicular rocks.

This portion of the belt includes the most majestic mountains of Europe, covered by enormous glaciers, indented by a number of passes, above which rise formidable peaks, which seem like giants of ice placed in order to forbid an entrance into this lovely country. The greater number of these passes are impracticable for armies, with the exception of the great roads of

the Simplon, Mont Cenis, Mont Genevre, and Cornice, by which nature has been defied and the Alpine rampart lowered and levelled, and which in the future will change the system of invasion and defence of Italy. By guarding the issues of all these passes, the whole frontier is guarded, especially from an attack by France, where the valleys descending from a segment of a circle, concentric to the basin of the Po, necessarily lead to Turin (see Basin of the Rhone, p. 175); but in order to defend so many passes, numerous and scattered forces are required, or if they are concentrated at the centre, the risk is run of one of the passes being forced on account of its distance, ere the enemy can be met and prevented from debouching. The mouths of these valleys are defended by forts; but it has been demonstrated that they can almost always be turned; and they have therefore lost much of their importance. But be that as it may, and in spite of these difficulties, the Alps still afford immense advantages for the defence of a given point by interrupting the execution of great strategic movements.

It is at the pass of Cadibona (see Basin of the Rhone, p. 178) that the greatest depression of the chain occurs, and this is generally regarded as the end of the Alps. From this commence the *Apennines*, which are divided into three parts: Northern Apennines, as far as the sources of the Ronco; Central Apennines, as far as the sources of the Sangro; Southern Apennines, as far as the extreme capes of the peninsula. At first they run from west to east, skirting the Gulf of Genoa, to which they send off short thick branches which overhang the coast; they then turn to the S.E. and enter the peninsula, through the middle the whole length of which they run. They are secondary mountains, their mean height being 5,000 feet; they display neither the pyramidal summits of the Alps, nor the lofty peaks of the Pyrenees; their forms are smooth, but their appearance is melancholy, owing the nakedness of their flanks. The Northern Apennines enclose the south side of the basin of the Po; they are 50 miles long, by from 25 to 50 broad. The majority of their valleys form a right angle with the water-parting, owing to which circumstance the chain only gives rise to rivers that run perpendicularly to it, and therefore are very short. The same is the case with its spurs, one only of which is remarkable; it is the one that runs from the opposite sources of the Scrivia and

Trebbia; it is very dense, bounds on the right the basin of the Trebbia as with a long wall, and on the left, throws out long branches between the tributaries of the Scrivia, between the Staffora, Tidone, &c.; these abut on the road from Voghera to Piacenza, and make it into a sort of long defile parallel to the Po, renowned under the name of the *Stradella*. This road is of great strategic importance: it is the only one between the Po and the Apennines; it cannot be turned by the right bank of the Po; it must perforce be resorted to, whether we go from Piacenza to the Tanaro, or from Alessandria to the Trebbia; finally, if in possession, it enables the line of the Ticino to be turned, by opening the passage of the Po at Piacenza. The entrance to the defile on the west is marked by the positions of Montebello and Casteggio, celebrated for the victories of 1800 and 1859.

The depressions of the Apennines are numerous. We may mention: 1, the *Bocchetta* pass (2,548 ft.), a most important pass leading from Genoa to Alessandria, defended by the fort of Gavi; it is the prolongation, into the basin of the Po, of the Cornice road, which runs from Nice to Genoa, skirting the Mediterranean; 2, the *Giovi* pass, through which runs a railroad from Genoa to Turin; 3, the *Monte-Bruno* pass, from Genoa to Piacenza by Bobbio; 4, the *Pontremoli* pass, from Pontremoli on the Magra to Fornovo on the Taro; it was followed by Charles VIII. in 1494, and by Macdonald in 1799; 5, the *Fiumalbo* pass, from the Pistoja to Modena; 6, the *Pietra-Mala* pass (3,293 ft.), from Florence to Bologna: it is the high-road of the interior of the peninsula. Besides these the Apennines have two very remarkable roads parallel to their crests: the first commences at Genoa and ends at Leghorn; it is the continuation of the Cornice road; it was formerly very bad, on account of the numerous spurs it has to cross; but lately it has been made into a magnificent road, which is prolonged beyond Leghorn as far as Grosseto. The other, called the *Æmilian road*, commences at Piacenza and ends at Rimini; it is quite straight, was known in the remotest times, and passes through numerous towns, such as Parma, Reggio, Modena, Bologna, Faenza, Cesena, &c.* These two roads, toge-

* In ancient times, *Æmilia* was the name given to the country through which this road runs; of late years this name has been revived.

ther with the road from Genoa to Piacenza and that from Rimini to Leghorn, form a rectangular figure, of which the Apennines are the diagonal, and which is one of the richest and most famous countries in the world.

Mountains of the Eastern Belt.—The Eastern Alps, or the Rhætic, Carnic, and Julian Alps, form a tortuous curve of 400 miles in length. (They were described in the Basin of the Danube, see p. 298.) Their southern watershed presents almost the same characters as that of the Western Alps; only the branches they give off are longer, and do not give the chain the appearance of an abrupt wall rising above the plains of the Po; two of them are specially remarkable, they run to meet one another on the Adige, and enclose the upper basin of that river in a triangle of mountains, having the Rhætic Alps for their base: this is the Italian Tyrol.

The first of these branches which interrupts the great plain of Northern Italy and covers it with masses of mountains, is called the *Ortler and Tonale Alps*. It is given off from the Rhætic Alps between the sources of the Adda and Adige, and runs S.E., separating the canton of Grisons from Tyrol, by *Monte Braglio* (9,774 ft.), *Bormio* (7,934 ft.), *Stelvio* (9,177 ft.), *Ortler*, a vast accumulation of glaciers, the highest peak of which rises to a height of 12,814 ft. There it separates Tyrol from Lombardy, inclines to the S.W., culminates in *Monte Tresero* (11,800 ft.), and at the sources of the Nos divides into two branches: *Valtelina Alps*, on the west, of which more hereafter; *Tonale Alps*, on the S.E. The latter continue the water-parting between the basins of the Po and Adige, reach the group of the *Tonale* (10,972 ft.), at the sources of the Oglio, of the Sarca (Mincio), and of a tributary of the Nos, and are prolonged by means of enormous walls covered with glaciers, which form the S.W. boundary of Tyrol and bar the communications of Lombardy with the Mincio and Adige. In 1800, Macdonald, who had come down the Splügen and wanted to get to the Adige, attempted to march through this group of the Tonale; but he essayed in vain to surmount this rampart of ice and granite, which moreover the Austrians had fortified, and it cost him an almost incredible amount of labour to turn it. To the south of the Tonale, the chain divides into two branches; one, under the name of *Chiese Alps*, runs

to the S.W. (we shall again allude to it); the other on the S.E. runs between the Nos and Sarca, then separates the Sarca from the Adige, and is continued betwixt the Adige and Lake Garda; it ends in *Monte Baldo*, a chain, 6,560 feet in height, which skirts the lake as a vertical wall; on the east of Garda it forms the plateau of *Rivoli*, and ends on the Adige by abrupt rocks, which force this river to flow in a long defile; its last heights end between Peschiera and Verona.

Let us now return to the *Valtelina Alps* and the Chiese Alps. The former run S.W., separating the basin of the Adda, on which they fall in precipitous slopes, from the basins of the Oglio, Serio, and Brembo, between which they throw long spurs. The principal pass of these Alps is that of *Aprica*, from Tirano (Adda) to Edolo (Oglio), through which Macdonald marched in 1800. The *Chiese Alps* run first between the Chiese and Sarca, are prolonged between the lakes of Idro and Garda by mountains 5,900 feet high, and end in low hills dotted all over the country to the south of Lake Garda, betwixt the Chiese and the Mincio. In this district we meet with Calcinato, Lonato, Castiglione, Solferino, Cavriana, places celebrated for battles, which testify that the last heights of the Alps terminate there.

The Ortler and Tonale Alps are crossed by important roads. The most northern is that of the *Stelvio*, which goes from Prad, on the Upper Adige, into the valley of Braglio, whence we can descend by Bormio to the Adda. This road, which will compare with the works of the Simplon and Cenis, and which is the highest in Europe (9,177 feet), is of great strategic importance; for it opens from Tyrol (by the Brenner, Upper Adige, Valtelina, and Adda) a direct communication with Milan; consequently it turns, not only the seven rivers which run into the Adriatic on the N.E. of the Po, but also the Mincio, the Oglio, and the Adda, and allows a German army to debouch in the centre of Italy, and by the valley of the Adda to fall upon the rear of an enemy who may have advanced into the plains of Lombardy.—A second road, not such a fine one as the last, but equally important and leading still more directly to Milan, crosses the Tonale itself, and establishes a communication between Trent and Bergamo, by the valleys of the Nos and Oglio: it has been made lately, instead of the wretched bridle-road which

Macdonald endeavoured to follow, and the object of it, like that of the Stelvio, is to get into the rear of the left bank of the basin of the Po.—Finally, there is a third very bad road, though of great but more limited importance: it is the road that runs from Roveredo or Trent, by the basin of the Sarca, into the valley of the Chiese, and thence on to Brescia and Mantua; it turns the lake of Garda, and it has been closed by the Rocca d'Anfo. It was by this route that one of the corps of Wurmser debouched in 1796, in order to fall upon Napoleon's rear, whilst he was occupied with the siege of Mantua.*

The second branch, which is given off from the eastern belt, runs between the sources of the Eisack and Piave, under the name of *Cadoric Alps;* it runs S.W. between these two rivers, and is cut through by the *Ampezzo* pass, which, from Cadore, follows upwards the course of the Boita, and goes by Cortina to the Toblach pass: this is one of the great roads from Italy to Germany. The highest peaks of the Cadoric Alps are: *La Marmolata* (11,405 feet), and the *Sasso-Vernale* (11,319 feet). They separate the Lavis from the Brenta, skirt the left bank of the Adige, under the name of the *Lesinian* hills, and are cut through by the *Pergine* pass (2,096 feet), through which runs the road from Trent to Bassano, by the Sugana valley, the route taken by Wurmser and Napoleon in 1796, and by Medici in 1866. They close in on the river ever more and more by precipitous steeps, and thus shut it into a long defile, bounded on the other bank by the heights of Monte-Baldo, which is renowned in the campaign of 1796. From the first spurs of the Lesinian hills rise the tributaries of the Brenta, the Astico, and the Bacchiglione; they end by low hills between all these rivers. One of these low hills closes the road from Verona to Vicenza, and contains the position of *Caldiero*, celebrated for several battles.

General Aspect.—The basin of the Po and of the other rivers that run into the Adriatic forms one of the most beautiful and most fertile districts in the world. It resembles an immense garden, well watered, splendidly cultivated, thickly peopled, almost perfectly flat, and with a mean elevation above the sea

* These roads have lost some of their importance since Austria no longer possesses Lombardy.

of hardly more than from 30 to 50 feet. Its climate is temperate and generally healthy, excepting in the vicinity of the Adriatic coast. It is intersected by an immense number of canals, some of which are navigable; but most are for agricultural purposes. These canals, the streams, the roads, even the borders of the fields, are fringed by trees festooned with vines, which give the country the appearance of a cleared forest; if we add that the country, besides being indented with canals and dykes, also abounds in stone fences, it will be obvious that off the made roads it must be very difficult to get along, and that cavalry could not manœuvre there. Villages are rare in this country; beyond the cities and market towns, we meet with nothing but isolated houses or *villas*, surrounded by gardens, enclosed by trees or hedges, which circumscribe the view in a singular manner, so that one may travel through the whole country from Turin to Milan, and from Milan to Gorizia, except the parts laid out in rice fields, without ever having a horizon of more than a mile or two.

Northern Italy has no forests: and to this circumstance is owing the singular situation of its rivers, which are raised above the neighbouring country, enclosed between artificial dykes, and flow, as it were, along the crest of a wall. The southern slope of the Alps being so rapid and abrupt as to make them seem to form a rampart above the almost horizontal surface of the valley, the streams rush down from them like torrents; and as the declivities are not covered with wood, the waters carry down with them from the mountains their vegetable soil, and ever and anon fragments of the rocks, into the plains; and hence, their beds being elevated by these extraneous matters, they are liable to overflow. Man has attempted to stay their ravages by means of dykes, and thus the rivers have acquired artificial beds which have a tendency to fill up from the same causes; so that at their mouths the rivers form deposits which compel them to percolate into the adjoining land, which they transform into marshes. These dykes play a most important part in military operations; by cutting them through, the country may be inundated, and this is what was often done by the combatants in the middle ages; and, moreover, they form walls and redoubts which may be conveniently used for covering purposes;

finally, in the lower parts, where the land is inundated, the only practicable routes are the artificial causeways.

Coasts.—From the mouths of the Po to those of the Isonzo, that is to say for 100 miles, the part of the gulf which receives the seven rivers is neither sea nor land, it is *lagoon*, a space from 7 to 10 miles in breadth, abounding in shoals and mud, covered by a foot or two of water, and intersected by channels kept open by human labour. Among these tortuous and narrow channels are nearly a hundred islands, some little more than sand-banks, others resembling bastions; the largest form the extreme boundary of the lagoon, and separate it from the true sea; they are called *aggere*, and they form a narrow line of land parallel to the shore, with channels cut through it opposite the mouth of each river. Beyond these islands and the dykes or *muracci* by which they are strengthened, the sea is profoundly calm, and ships find in the channels a sure course and a safe anchorage. The only ports on this coast are Venice and Trieste.

1. **Course of the Po.**—The *Po* (Padus) rises in Mont Viso at a height of 6,560 feet, behind one of the tributaries of the Durance; it flows in a curve from S.W. to N.E., leaving on its right SALUZZO, which belonged to France from the time of Francis I. to that of Henry IV. It washes STAFFARDE, battle of 1690, won by Catinat over the Duke of Savoy; leaves on its right CARMAGNOLA; flows by CARIGNANO, formerly fortified, near which is CERISOLA, battle of 1544, won by the French over the Spaniards. After having passed by MONCALIERI, it reaches TURIN (left bank), capital of Piedmont, defended by a citadel, the only part remaining of its ancient fortifications; population, 180,000; it was taken by D'Harcourt in 1640, besieged in 1706 by the French, who were defeated there by Prince Eugene, besieged and taken from the French by the Russians in 1799, retaken by the French in 1800, and kept by them till 1814.—After this the river flows from west to east, curving in an opposite direction to the first part of its course; washes CHIVASSO and VERRUA (left bank), formerly fortified; CASALE (right bank), the ancient capital of Montferrat, a town formerly strongly fortified, lying in a most remarkable position on the road from Milan to Turin, and commanding the space between the Po and the Tanaro. It is famous for the siege of 1630 and the battle of 1640, when

Count d'Harcourt beat the Spaniards. It was formerly the stronghold that commanded Western Italy, and which, along with Mantua, gave possession of all the basin of the Po. Louis XIV. retained it till the peace of Ryswick. Its fortifications, demolished in 1796, have lately been re-established.

The Po, at the confluence of the Sesia, near FRASSINETO, inclines due south, and thus it guards the remarkable space comprised between its course and that of the Tanaro, which contains the road from Milan to Turin; hence it has often been crossed or attacked in this portion of its course: It then washes VALENZA, formerly fortified, where the railway from Alessandria to Milan passes;—BASSIGNANO, battle of 1745, won by the French over the Piedmontese; engagement of 1799, when Moreau forced the Russians to recross the Po. It then flows almost due east, making a great number of windings through a wonderfully fertile country; its breadth varies from 600 to 1,600 feet; its right bank commands its left, which is very flat; it washes no place of importance before reaching PIACENZA (right bank), a fortified town with a citadel, important by reason of its position at one of the extremities of the defile of the Stradella; it was twice chosen by Napoleon as the place for crossing the Po; in 1796 by the right bank, in order to turn the Austrians, who expected him on the Ticino; in 1800 by the left bank, in order to pierce the line of operations of the Austrians, whom he afterwards beat at Marengo.—After this the river forms numerous islets and derivations, which have been arrested by great embankments, washes CREMONA (left bank), a fortified town with a citadel, celebrated for the surprise and the battle of 1702; it turns in a winding manner to S.E. as far as GUASTALLA (right bank), formerly fortified, battle of 1734, won by the French over the Imperialists; near it is LUZZARA, battle of 1702, won by the French over the Imperialists; it then passes by BORGO FORTE, where it is 2,000 feet in breadth, and where it receives its last tributary on the left. It then runs towards the S.E., washing no very important place until it reaches STELLATA, a small fortress, below which it receives its last tributary on the right. After this it passes PONTE DI LAGOSCURO, a town which serves as the port of Ferrara, and where the river is 4,000 feet in breadth; it then turns towards the N.E. without being compelled to do

so by any elevation of the right bank, for it flows through a flat, unhealthy, inundated country, upon an artificial bed upwards of 70 feet in height. It throws off numerous arms; the most remarkable, called *Canale Bianco*, begins at POLESELLA, battle of 1509, when the Venetians were beaten; it is connected on the north with a canalized river, formed by the Tartaro and the Molinella, and washes ADRIA, which formerly lay on the sea, but is now more than 15 miles from it. All this country has been almost entirely formed by the soil brought down by the river, or by what has been wrested from the sea. In ancient times the Po followed its natural direction to the S.E., and passed by Ferrara; this town is now more than 2 miles from the Po, the level of which is higher than its church steeples; it there divided into two branches, which embraced a watery delta called *Septem Maria*, and the two extremities of which still exist, but canalized and completely separated from the Po; they are called, that on the north the *Po di Volano*, that on the south the *Po di Primaro*. In the twelfth century all the water of the Po still flowed through these two branches, which now embrace the lagoons of Comacchio, the remains of the *Septem Maria*. It would appear that the river was turned by human labour into its present channel, which was formerly but a secondary branch; the two branches of Volano and Primaro became impoverished, and the embankment of the river was commenced. Then, great quantities of timber were cut down in the Alps and Apennines; the deposits of soil increased, the mouth became prolonged progressively, the promontories formed by the first mouths united so as to form a single one, the present point of which is 108,260 feet from Adria. Since 1604 the river has gained 50,000 feet, that is, at the rate of 200 to 230 feet per annum. The disasters which menace the low land which it deposited in former times, could only be obviated by opening new channels for the river through this low country; the danger is especially great during the floods, which occur two or three times in the year, last from 30 to 40 days, quadruple the height of the river, and are often combined with N.E. winds; the inhabitants of both banks on such occasions hasten to the dykes to strengthen them; but their efforts must some day prove insufficient, and the low part of the basin of the Po will become an immense marshy lake, in

which the mouth of the river will be lost. These flats are already 37 miles in diameter from north to south, and 25 from east to west; the lagoons of Comacchio, which are the most unhealthy part, are only separated from the sea by a narrow dyke of sand heaped up by the waves; but they might be easily drained by conducting the river through their midst. A road runs along this dyke from Ravenna to Venice, crossing the Po and the Adige, and passing near the town of COMACCHIO, which is fortified.

The Po is about 340 miles in length; its banks, generally flat, and its stream slow and still, are favourable to crossing from one side to the other: the breadth of its channel facilitates transports of all kinds. From its direction and the volume of its water, it is of great strategic importance: it is a ditch covering the peninsula in the rear of the rampart of the Alps, nor can these be penetrated in any place so as to avoid it. On the west, of little importance in itself, it is of much importance by its tributary streams; on the east, it is covered by the streams that run directly to the Adriatic; on the north, it lies behind the mighty mass of the Alps, which prevents any great invasion; on the south, if we penetrate by the weak point between the Alps and Apennines, it still retains all its importance, for we could not venture into the peninsula without having our rear covered by the river. The country on the left bank being broader, more fertile, intersected by large streams, and covered by high mountains, is much more important than that on the right bank; and the invading army always marches thither even though it may have entered by the south. The streams which come down from the Alps are of considerable size, for they rise among the glaciers: they are limpid and agreeable; those which come from the Apennines are mere mountain torrents, because they rise among secondary mountains: they are muddy and unwholesome.

Tributaries on the right.—1. The *Vraita*, an insignificant torrent rising in the Agnello pass, washes CASTEL DELFINO, the defence of that pass, and ends below Villafranca.

2. The *Maira*, a torrent of the same character, and running in the same direction as the last named, passes near GENOLA, battle of 1799, lost by the French, and SAVIGLIANO, a town anciently fortified; it ends above Carmagnola.

From Carmagnola to Valenza the Po receives no tributary stream; it is prevented from doing so by the heights of Montferrat, offshoots from the last hills of the Maritime Alps, which are prolonged upon the right bank and compel the river to describe a large curve with the convexity looking north; the Tanaro gathers all the streams which would otherwise have run into it directly.

3. The *Tanaro* (Tanarus) rises in Monte Tende, flows throughout its whole course parallel to the two curves described by the Po from its source to Valenza, washes ORMEA and CEVA, towns formerly fortified, which guard the Nava pass;—ASTI, a town formerly fortified, where it is compelled by the mountains that skirt the Po to run east as far as the confluence of the Bormida, at ALESSANDRIA.—This town, lying on the right bank of the Tanaro, has on the left bank an immense citadel, which is covered by the two rivers; it is the most important fortress in Western Italy, by its singularly strategic position, which covers the Frassineto space, all the right bank of the Po, the basin of the Tanaro and the road from the Cadibona to the Bocchetta pass. Napoleon intended to make it an immense entrenched camp, by which he would connect the fortresses of Turin, Milan, and Mantua;* nothing was spared in order to make it a safe retreat, an immense magazine, a formidable bulwark to an army, which after losing a battle could no longer keep the field on the left bank of the Po, but would be compelled to rest on the Apennines. It was below this town that Melas, in 1800, concentrated all his forces, and here he lost the battle of MARENGO, fought on the marshy banks of the *Fontanone*, in a level plain without canals, on the Alessandria road. The Tanaro below Alessandria turns to the N.E., and falls into the Po opposite Cambio.

Its tributary streams are: 1. The *Elero*, on the left, which passes by MONDOVI, battle of 1796, won by Napoleon over the Piedmontese.—2. The *Stura*, on the left, which rises in the Argentiere pass, washes VINADIO, a newly constructed fortress defending this pass;—DEMONTE, an old fortress, of which only an old castle remains;—CONI, a fortified town, at the issue of

* Matthieu Dumas, t. ix. p. 416: "I consider this fortress to be the whole of Italy," he said; "the rest is an affair of war, this fortress is an affair of politics."

the Tenda and Argentiere passes, celebrated for the sieges it has undergone, especially for that of 1744;—Fossano, defended by a castle; it ends at Chierasco, formerly fortified, celebrated for the armistice of 1796.—3. The *Bormida*, on the right, formed by two parallel rivers of the same name which unite before Bestagno; the western one passes near Millesimo, battle of 1796, won by Napoleon over the Austrians; the eastern one washes Carcare and Dego, battle of 1796, won by Napoleon over the Austrians, the Cadibona pass issues into its valley; a third torrent, parallel to the other two, runs more to the east, under the name of *Erro*, passes by Montenotte, first victory of Napoleon, in 1796, over the Austrians, and ends at Acqui. After passing this town the Bormida turns to the north, becomes broad and rapid, and receives several small streams, one of which, the *Lemme*, a tributary of the *Orba*, passes by Gavi, a town lying at the issue of the Bocchetta pass, and which still retains its old walls; it then flows through the field of Marengo, and ends at Alessandria.

Among the tributaries of the Tanaro, the last heights of the Alps extend and become lost; they give to the basin, not the hilly aspect of the general belt, but that of a plain intersected by very rugged valleys; these branches are numerous and long, which renders it difficult to turn them and gives importance to this district, it being the only side by which Italy can be entered without crossing the range of the great Alps. It was here that Napoleon entered in 1796. "After having beaten and separated the Austrians and Piedmontese at Montenotte, Millesimo and Dego, and whilst the former were retreating on Acqui and the latter on Mondovi, the French army reached the heights of Montezemoto, between Millesimo and Ceva. Thence it discovered the immense and fertile plains of Piedmont; the Po, the Tanaro, and a number of other streams winding away in the distance; the white belt of snow and ice, of enormous height, bounding the horizon of this rich basin of the promised land. These gigantic barriers, which looked like the limits of another world, which nature has chosen to render so formidable, and upon which art had done all she could, fell as if by magic: 'Hannibal,' cried Napoleon, fixing his eyes on these mountains, 'forced the passage of the Alps; we have turned them.'" *

* Mémoires de Napoléon, t. iii., p. 178.

4. The *Scrivia* rises in the Apeninnes, leaves on its left NOVI, battle of 1799, won by the Russians over the French, washes TORTONA, once a very strong fortress, taken several times by the French, now dismantled, engagement of 1746, and ends below CASTEL NUOVO.

5. The *Staffora* rises in the spur between the Scrivia and Trebbia, the importance of which we have already pointed out, and which forms the defile of the Stradella; it passes by VOGHERA.

6. The *Coppo* rises in the same spur, passes near MONTEBELLO, battles of 1800 and 1859, and washes CASTEGGIO, at the entrance of the Stradella defile.

These streams are large, dangerous, liable to overflows, and without bridges. The country they flow through is very diversified, fertile, and well cultivated.

7. The *Trebbia* rises in the Monte Bruno pass, washes BOBBIO, splits into a number of channels and branches, and ends above Piacenza. This river is everywhere fordable; it is 1,600 feet wide; but is dry in summer, and during the floods it overflows and ravages its banks. Its valley is of great importance in a military point of view: it forms along with the course of the Ticino and that of the Po, between the confluences of the Ticino and Trebbia, a continuous line of water, which is the first great military obstacle in the rear of the Alps. We shall return to this subject hereafter. The Trebbia cannot be forced except near its confluence by the Stradella defile; hence three great battles have been fought on its banks near Piacenza. "So true is it," says the Archduke Charles, "that the progress of operations depends on the topographic configuration of the country, for the situation of the mountains and the course of the rivers invariably determine the lines and the points on which armies must come into collision; this is why decisive battles have several times been fought on the same spots, though under different circumstances and with different arms." * These battles are those in which Hannibal defeated the Romans, who sought to cover the entrance to the peninsula, that of 1746, won by the Imperialists over the French and Spaniards, and that of 1799,

* Campagne de 1789, t. ii., p. 60.

when Macdonald, returning from Naples, tried to effect a junction with Moreau, in the basin of the Tanaro, attacked the Russians for three days in the bed of the Trebbia, which was dry, was defeated and forced to make a disastrous retreat on Genoa by the Apennines.

8. The *Taro* flows by FORNOVO, at the issue of the Pontremoli pass, battle of 1494, where Charles VIII. beat the confederated Italians.

9. The *Parma*, a torrent, dry in summer, washes PARMA, a large city with an ancient bastioned enceinte; battle of 1734, won by the French over the Imperialists.

10. The *Crostolo* sends off a secondary channel on which stands REGGIO, defended by an old wall and a castle; near it is the castle of *Canossa*, famed for the interview between Gregory VII. and the Emperor Henry IV.; it ends at Guastalla.

11. The *Secchia* passes near CARPI, an ill-fortified town, leaves on its right MIRANDOLA, a town formerly strongly fortified, which was taken by Pope Julius II. in 1511, and is connected with the Crostolo by a multitude of canals.

12. The *Panaro* passes near MODENA, capital of a duchy, defended by old ramparts and a citadel; it ends at Stellata.

The last tributaries on the right fall into the Po di Primaro, which runs by FERRARA, a large fortified town of the Romagna, with an immense regular citadel; from this onwards it is canalized, and with many windings runs through an inundated district, skirts the lagoons of Comacchio, and ends in the Adriatic. These tributaries are torrents which have been canalized by means of enormous works, which make this country a perfect chaos of dykes, ditches, marshes, cuttings, &c. The following are the most remarkable among them:—

13. The *Reno*, increased by the receipt of several streams, has been diverted into a canal perpendicular to its direction called the Benedictine ditch, which has been carried across the marshes and joins the Primaro at Traghetto. This canal receives five other torrents of the same kind, one of which, the *Savena*, passes near BOLOGNA, a large town of 80,000 inhabitants, surrounded by an old wall; battle of 1511, won by the French.

14. The *Santerno*, which passes by IMOLA, and the *Senio*, which passes by LUGO, are the last tributaries of the Primaro.

Tributaries on the Left.—1. The *Clusone* rises in Mont Genèvre, runs from N.W. to S.E., washes FENESTRELLES, a very strong fortress, covered by five forts, at the issue of the pass of Mont Genèvre; it passes near PIGNEROL, a town formerly strongly fortified, which belonged to France from 1536 to 1698, and which was regarded as the key of the Alps; it is now dismantled. In its castle, Fouquet, Lauzun, and others were confined.

2. The *Chisola* is a brook, a tributary of which washes LA MARSAILLE or MACELLO, battle of 1693, won by Catinat over the Duke of Savoy.

3. The *Doria Riparia* rises in the Abries pass, washes the fort of EXILLES, which defends the pass of Mont Genèvre; engagement of 1747;—SUSA, an old and important town, at the confluence of the *Cenise*, a torrent that rises in Mont Cenis; here the roads from Mont Genèvre and Mont Cenis meet at the entrance of a defile, called the Pas-de-Suse, which was forced by the French in 1629; the town was commanded by the fort of *La Brunetta*, demolished in 1796. The river ends at Turin.

4. The *Doria Baltea* is formed by two torrents which rise in Mont Blanc, and which open up the passes of the Great and the Little St. Bernard; they unite at AOSTA, an ancient town in an important position at the issue of the two passes. The Doria then runs S.E., receives a great many torrents, passes by BARD, defended by a fort built on a precipitous rock, which completely closes the valley, allowing a space of hardly 200 ft. for the river; this post, so remarkably situated, was thought capable of arresting the French army in its descent from the Great St. Bernard in 1800, and thus stultifying the plan of the campaign. Then the river washes IVREA, an ancient fortress, the key of the Milan and Turin roads, and it ends between Chivasso and Crescentino.

5. The *Sesia* (Sessites) rises in Monte Rosa, runs through a wild winding valley, washes ROMAGNANO, celebrated in connection with the retreat of the French in 1524, and where Bayard was killed; it then runs through a flat country, intersected by canals, passes by VERCELLI, a town indifferently fortified, but important from its position at the confluence of the Cervo and

of the Santhia canal, which comes from Ivrea; it is celebrated as being the scene of the victory of Marius over the Cimbri. The Sesia terminates below Casale. As it opens up no passage into the Alps, it has not in its upper part the same importance as the preceding streams, though it is larger than they are; but all the country included between the Po, the Sesia, the Doria and the Santhia canal is perfectly flat, intersected by irrigation canals, and very favourable for defensive operations. In addition to the *Cervo*, on the right, the Sesia receives on its left numerous tributary streams: one of them washes PALESTRO (victory of the French and Piedmontese in 1859, over the Austrians), on the road from Vercelli to Mortara.

6. Between the Sesia and the Ticino a few small streams flow, which do not rise in the great chain, and are of no use except to fertilize the country by the irrigation canals given off by them. One of them, the *Agogna*, passes near NOVARA, a fortified town, with a good castle, on the road from Vercelli to Milan; battle of 1513, won by the Swiss over the French; battle of 1849, won by the Austrians over the Piedmontese. Another, the *Terdoppio*, passes not far from VIGEVANO, an important town, defended by an old castle.

7. The *Ticino*, or *Tessin* (Ticinus), rises in the St. Gothard, washes AIROLO, in the Levantina valley, where the pass of St. Gothard issues, passes by BELLINZONA, capital of a Swiss canton, defended by three bad forts, where the St. Gothard and Bernardino roads meet; after this, it falls into the *Lago Maggiore* (Verbanus).—This lake is 52 miles long by 6 broad; on the east bank is LAVENO, a small fortified town; it receives on the right the *Toccia*, which passes by DOMO D'OSSOLA, where the Simplon road issues.—The Ticino flows out of the lake at Sesto Calende, and runs in a valley, at first shut in between low wooded hills, afterwards widening out between meadows, finally spreading among rice-fields, intersected by banks and dykes. Its breadth increases gradually from 200 to 2,000 ft. Its current is rapid, and yet embarrassed by islets and derivations. In this condition it passes not far from TURBIGO, near which is a bridge where the French crossed the river in 1800 and 1859; near BUFALORA, which has a fine bridge, over which runs the road from Novara to Milan, and which was carried by the French

in 1859; it leaves on the right VIGEVANO, and reaches PAVIA (Ticinum), a town important by reason of its position, which is the key of the Ticino, but which has only bad fortifications; battle of 218 B.C., gained by Hannibal over the Romans; battle of 1525, gained by the Spaniards over Francis I. Below this town the Ticino falls into the Po. We have already mentioned that this river together with the Po and the Trebbia form a continuous line of water, which presents an excellent defence against aggression from the side of France; the course of the Ticino, from Sesto Calende to Pavia, is the principal part of this line. This line cannot be turned on the north, owing to the neutrality of the Swiss canton of Tessin; nor on the south, except by the Stradella defile, and this is what gives importance to this defile and to the fortress of Piacenza. In 1796, the French turned it by this side and by crossing the Po at Piacenza; in 1859, they pierced it in the centre by Turbigo and Bufalora, and fought the battle of Magenta.

The line of the Ticino is strengthened in the rear by the *Naviglio Grande*, a very old deep canal with precipitous banks, which skirts the river from Tornavento to Abbate Grosso, where it turns eastward to Milan. Near this canal, on the road from Bufalora to Milan, is MAGENTA, battle of 1859, won by the French over the Austrians.

8. The *Olona* rises in the mountains separating the Lakes Maggiore and Lugano; it is merely a large brook, which passes near VARESE and BICCOCA, battle of 1522, lost by the French; finally it washes MILAN (Mediolanum), a large city with a population of 196,000, one of the capitals of Italy by its civilization, its manufactures, and its monuments. It was formerly very strongly fortified, but its citadel has been destroyed, and nothing remains but its bastioned walls. Founded 600 years B.C., it was taken by the Romans, by Odoacer, by Theodoric, by the Lombards, by Charlemagne, by Frederick Barbarossa who destroyed it; it became the state capital of the Viscontis and the Sforzas, was taken by Louis XII. and Francis I., passed into the hands of the house of Austria, and remained there till 1796, when it was taken by the French; the Austrians re-entered it in 1799, and were driven out of it again in 1800; it became the

capital of the Italian Republic, then of the kingdom of Italy; in 1814 it again came under the Austrian rule, and was till 1859 the capital of the Lombardo-Venetian kingdom; it now belongs to the new kingdom of Italy.

9. The *Lambro* rises in the hills that separate the two branches of the Lake of Como, washes MONZA, which was the royal residence of the Lombard kings;—MELEGNANO or MARIGNAN, on the road from Milan to Lodi, battle of 1515, where the French beat the Swiss; engagement of 1859. It receives a tributary stream that passes by LANDRIANO, battle of 1539, in which the French were beaten, and ends below SAN COLOMBANO, an advantageous position, formerly fortified. The Lambro is a mere brook connected by numerous canals with the Olona.

10. The *Adda* (Addua) rises in Ortler Spitze, and runs from N.E. to S.W. through the *Valtelina*.—This valley, 50 miles long by from 3 to 20 wide, is of great importance, on account of its direction being parallel to the crest of the Alps, and from its being the communication between Tyrol and the Milanese; it is renowned in connection with the war of 1635; it then belonged to the republic of the Grisons, which took possession of it in 1512, and it was coveted by Austria, who wished by its means to connect her German with her Italian states; it was wrested from the Grisons in 1797, and given to the Cisalpine Republic by the French; it now forms part of Lombardy.—In this valley the Adda washes BORMIO or WORMS, where the great Stelvio road issues;—TIRANO, a central position from which all the defiles of the Valtelina may be guarded, and of which the Duke of Rohan successfully availed himself in his campaign of 1635;—SONDRIO, capital of the Valtelina and indifferently fortified;—FUENTES, a very important fort, in front of which the river falls into the Lake of *Como*.—This lake, which is 700 ft. above the sea, is 50 miles long from north to south, and from 5 to 7 wide; in its north extremity it receives the *Maira*, which rises in Mont Maloia, and passes by CHIAVENNA, where the Maloia and Splügen roads meet; in its southern part it splits into two arms: the western one retains the name of Como, and the town of the same name is at its extremity; the eastern one is called Lecco.—The Adda follows this latter arm, and leaves it at BRIVIO; it washes TREZZO, where it runs in a very precipitous bed;—

Cassano, on the road from Milan to Brescia, an important pass where battles were fought in 1705 and 1799, the former won by Vendome over the Imperialists, the latter won by Suwarow over the French; it leaves on its left Agnadel, battle of 1509, won by Louis XII. over the Venetians; washes Lodi, on the second road from Milan to Brescia, defended by an old citadel and famous for the engagement of 1796, where the French forced the passage of the river. After this it receives the *Serio*, a long brook of no importance, which passes near Bergamo, a large town, having a strong enceinte of old walls; washes Pizzighettone, a fortress, and ends near Fombio, engagement of 1796, won by the French over the Austrians.—This river, though rapid and deep, is sometimes fordable; its left bank is fringed with hillocks, its right bank is bare and open, it is not so good or important a line as the Ticino; Lodi and Pizzighettone protect the lower part of its course; the upper part is sufficiently covered by the lake, but it may be forced at its centre, which is not at all defended by Trezzo and Cassano.

The quadrilateral space formed by the Po, the Ticino, the Adda, and the Lakes Maggiore, Lugano, and Como, is very remarkable: it is one of the finest, richest, and most populous plains in the world; Milan, which lies in its centre, is defended by these four lines. The mountains that surround the lakes present a formidable obstacle, only traversed by one road, that from Bellinzona to Milan.

The Adda and Adige rise one behind the other, and in the upper parts of their courses are parallel to the crest of the Alps, the rivers between them can only rise in the body or the spurs of the Tonale, which makes them of minor importance. Moreover the lower parts of their courses are nearly parallel to the Po; and this direction is caused by a change in the declivity of the Alps, symmetrical to that in the basin of the Danube which deflects the courses of the Isar, Inn, &c.

11. The *Oglio* rises in Monte Tonale, runs through a wild valley called *Val Camonica*, where it washes Ponte di Legno, famous in 1800;—Edolo, at the issue of the Aprica pass; it is skirted from N.E. to S.W. by the road from Trent to Bergamo; runs through Lake *Iseo*, which is 12 miles long by 2 wide; passes near Chiari, on the road from Brescia to Milan, engagement of

1701, won by Eugene over Villeroy; it leaves on its left ORZINOVI, on the road from Lodi to Brescia; turns S.E. parallel to the Po; is crossed at MARCARIA by the road from Cremona to Mantua, and ends between Guastalla and Borgo-Forte.—It receives on its left: 1. The *Mella*, which runs through the rich *Val Trompia*, which communicates with the Val Camonica by Pisogno on the Lake of Iseo, and with the Val Sabbia by the Rocca d'Anfo; thereafter it passes near BRESCIA, a large town, defended by an old castle, in the centre of the roads from Bergamo, Milan, Lodi, Cremona, Mantua, and Verona; taken and sacked by the French in 1512.—2. The *Chiese* runs through the Lake *Idro*, on the west bank of which is the ROCCA D'ANFO; this very important fortress seals the dangerous defile formed by the valley of the Chiese or *Val Sabbia*, through which runs the road from Trent to Brescia; the river then passes by CALCINATO, battle of 1706, won by the French over the Austrians; and MONTE CHIARI, engagement of 1796.—The Oglio, though it is a broad river, intersecting the immense district included between the Adda and Mincio, is of small importance, owing to the faults we have indicated in its direction; once either of these rivers is forced, the line of the Oglio becomes useless. Villeroy tried in vain to defend it in 1781 against the Prince Eugene.

12. The *Mincio* (Mincius) rises in Monte Tonale under the name of the *Sarca*, runs through a wild valley, crossed by the road from Trent to Rocca d'Anfo, and falls into the Lake of *Garda* at RIVA.—This lake is 37 miles long by 7 wide, and it is closely hugged on all sides by mountains: on the west, these are the last heights of the Alps of the Chiese, at whose foot is the small fortress of SALO, celebrated in 1796, and which are prolonged betwixt the Chiese and the Mincio by the heights of *Lonato*, *Castiglione*, and *Solferino*; on the east is Monte-Baldo which separates it from the Adige, and on which lie the plateaus of *La Corona* and *Rivoli*.—The Mincio, which divides Lombardy from Venetia, leaves the lake at PESCHIERA, a fortress whose works have been lately added to, and which can inundate the country by sluices; it washes MOZAMBANO (right bank), where the French crossed in 1800;—BORGHETTO (right bank), where the French crossed in 1796;—POZZOLO (left bank), battle of

1800, won by the French over the Austrians;—GOITO (right bank), at the meeting of the roads from Brescia and Cremona to Mantua, battle of 1848, in which the Piedmontese defeated the Austrians; it then forms a marshy dilatation, divided into three so-called lakes. In the elbow formed by the middle lake, on the right of the Mincio, lies MANTUA.—This celebrated town, formerly the capital of a sovereign duchy, is one of the strongest fortresses in Europe; its position on the left bank of the Po makes it equal in importance to Alessandria on the right bank. It is connected with the left bank of the Mincio by two bridges; that on the north leads to the citadel of *Porto* or *Favorita*, battle of 1796, won by Napoleon over the Austrians, and opens the road to Verona; that on the east leads to fort *San Giorgio*, battle of 1796, won by Napoleon over the Austrians, and opens the road to Legnago. A large derivation of the Mincio on the right bank cuts off Mantua from the mainland, and this derivation runs through immense marshes defended by the redoubts of *Pradella*, the castle of *Te*, and the redoubts of *Migliaretto*; these various works protect the roads from Cremona, Borgoforte, and Governolo. From the lakes of Mantua a canal runs S.W., falling into the Po, and this and the two streams enclose a triangular island of amazing fertility, called the *Seraglio;* this island is the magazine of the garrison of Mantua, which obtains its supplies from it, and by means of it commands the course of the Po. The most celebrated siege Mantua has stood is that of 1796, in which Napoleon had to destroy successively three Austrian armies before he could obtain possession of the stronghold. At the present day, and especially since Verona has been so completely fortified, it has lost much of its importance.—The Mincio falls into the Po at GOVERNOLO. It is not a broad, but a rapid river; and if its irrigation canals are stopped, it becomes unfordable. Mozambano and Pezzolo are the two points of the right bank which command the left; Salionze and Valeggio, those of the left which command the right; these points have been the theatre of numerous fights.

The Ortler and Tonale Alps, the Lake of Garda, the Mincio, and the Po, with the labyrinth of branches that mark the end of its course, form Italy's most formidable line of defence. Except between Peschiera and Mantua it is inapproachable, hence

the importance of these two fortresses; everywhere else there is nought but insuperable mountains and waters; hence the numerous battles delivered to the south of the Lake of Garda, between the Chiese and Mincio, Calcinato, Lonato, Castiglione, Solferino, Borghetto, Pozzolo, &c. We shall find that this formidable line of defence is doubled by the course and fortresses of the Adige, behind it.

The rivers coming down from the Alps to the east of the Mincio are intercepted by the Adige, or fall directly into the Adriatic.

2. **Course of the Adige.**—The upper basin of this river is enclosed in the triangle of mountains comprising Italian Tyrol; at Trent it becomes a narrow valley, hemmed in by the last branches of two sides of the triangle; below Verona it is perfectly flat and shouldered by the two parallel basins of the Po and the Bacchiglione.

The *Adige* or *Etsch* (Athesis) rises on the south of the Reschа pass, flows from west to east, through a wild valley of great importance, in consequence of leading from Tyrol into the Valtelina; passes near GLURNS, at the issue of the Tchirf and Reschа passes; washes PRAD, where the Stelvio road commences;—MERAN, where it turns S.E. and joins the *Eisack*, which may be looked upon as the eastern source of the river.—The Eisack rises in the Brenner pass, it receives the *Rienz*, which comes from the Toblach pass, flows through the *Pusterthal* and washes BRUNECKEN; then it passes by BRIXEN (2,024 ft.), a very important position at the issue of the two passes; BOTZEN, centre of the roads from Italy and Tyrol, the Valtelina and Carinthia; below this town it joins the Adige.—The river then runs south, forming in its tortuous course a number of small islets; its bed is muddy, its banks low and subject to inundations; it receives on its right the torrent *Nos*, which opens a communication by Monte Tonale with the Oglio, and whose valley is very important; its banks then become steep, its bed sandy, its valley more healthy and populous. It receives the *Lavis* or *Avisio* on the left, and farther on washes TRENT, capital of the Italian Tyrol, central position where four very important roads meet; the first runs N.W. by the valley of the Nos, and crosses the Tonale to the Oglio, Bergamo, and Milan; the se-

cond runs west to the Sarca, descends on the Chiese, and is closed by Rocca d'Anfo; the third runs south, skirting the left bank of the Adige, to Verona; the fourth runs east by the sources of the Brenta, and descends on Bassano. The three last, which communicate directly or indirectly with Mantua, played a great part in the campaign of Napoleon against Wurmser in 1796.—After Trent, the Adige, hemmed in on either hand by the Monte Baldo and the Lesinian hills, washes CALLIANO, a formidable position in a terrible ravine;—ROVEREDO, battle of 1796, won by Napoleon over the Austrians;—SERRAVALLE, whence a road runs on the right bank of the Adige betwixt the river and Monte Baldo.—This road, on reaching INCANALE, there being no room by the side of the Adige which bathes the foot of the hills here, ascends the flank of Monte Baldo by a kind of winding staircase, and issues on the plateau of RIVOLI; this plateau, the staircase of Incanale, and the succcessive steps of Monte Baldo, were the theatre of the battle of 1796.—After this the Adige runs through a level country, becomes broad and deep, washes VERONA, a large and ancient town with a population of 60,000, the principal place of arms of the Austrians as long as they held that province of Italy; it lies on both banks of the river, which in this place is 330 ft. wide, but chiefly on the left bank and on the crest of the last spur of the Alps, which prevents its being turned by the north. This crest is defended by seven forts; the remainder of the left bank is only protected by a mediæval wall; but on the right bank the fortification is regular, and consists of bastioned fronts, principally intended to facilitate sorties, Verona, being not so much a stronghold capable of standing a siege as a camp of refuge for an army. It has played a conspicuous part in all the Italian wars, and principally in the campaigns of 1796 and 1848.—On the N.W. of this town we find *Bussolengo*, battle of 1799, where Scherer defeated the Austrians; on the south, *Magnano*, battle of 1799, where the same general was defeated; on the west, nearly midway between it and Peschiera, is CUSTOZZA, battle of 1866, when the Austrians beat the Italians.—Then the Adige passes by CALDIERO, a position formed by a spur of the Lesinian hills, flanked on one side by the mountains, on the other by the river; this position completely bars the road from Verona to Vicenza, and is

celebrated for the battles of 1796, 1805, and 1813. Below Caldiero the river washes RONCO (right bank), where the French crossed in 1796 in order to turn Caldiero, and deliver the battle of Arcole. Below this point it receives on its left the *Alpon*, a brook which runs through marshes.—The marshes of the Alpon are crossed by two roads running from Ronco on the Adige: the first ascends the river by Porcil to Verona; the second crosses the Alpon at ARCOLE, and terminates at Villanova, at the back of Caldiero. These two roads, particularly the second, were the theatre of the battle of 1796.—The Adige next washes LEGNAGO, a fortress of importance on account of its bridge, celebrated in the campaign of 1796; this completes the famous quadrilateral comprised between Peschiera, Verona, Legnago, and Mantua;—CAPRI, a position guarding the head of the White Canal, where Eugêne beat Catinat in 1706. It then turns almost due east, runs through an inundated country, whilst it approachos the Po and throws off branches, the most important of which passes by ROVIGO, chief town of the *Polesina*, and unites with the White Canal; at last it runs into the sea across marshes and deposits of soil, which render its mouths indistinct and impart to it precisely the same character and peculiarities as the Po has.—The country between the lower Mincio, the Po, and the Adige, is covered with marshes and rice-fields, very fertile and very unhealthy; by cutting through some of the dykes it may be entirely inundated. It is traversed by canalized streams, running in various directions, some of which fall into the Po, others into the Adige, and which are important in consequence of the great number of bridges that span them; the most remarkable among them is the *Molinella*, a tributary of the *Tartaro*, which is crossed at VILLAFRANCA by the road from Mantua to Verona, and at VILLIMPENTA by that from Legnago to Mantua. This stream is celebrated in the campaign of 1796.

The Adige, broad, deep, rapid, unfordable, is the best military river in Italy; by its course, which describes a right angle, it is parallel to the line of defence formed by the Tonale, the Lake of Garda, the Mincio, and the Lower Po; consequently it doubles that line of defence. Its upper part is well protected by the Tyrolese mountains and the long defile of Roveredo; its lower part is inaccessible, on account of the branches and canals it

sends off to the Po; it is therefore only approachable by the centre, that is to say, between Verona and Legnago. These two fortresses are moreover symmetrical with Peschiera and Mantua, and with them they form the formidable quadrilateral, where the Austrian armies used to find an invincible asylum.

3. **Course of the Bacchiglione.**—This small stream rises in the Lessinian hills to the south of Roveredo, flows through a very diversified country, washes VICENZA, defended by an old castle and a double enceinte, on the road from Verona to Austria;—PADUA, a large manufacturing and scientific town, badly fortified, with a population of 50,000, where a canal, 5 miles long, commences, which unites it with the Brenta; finally, its scanty and yellow waters meander among the lagoons, where it becomes lost without distinct mouth, near CHIOGGIA, a fortified town with a harbour and ship building yards; naval battle of 1380, which gave to the Venetians the empire of the sea.

4. **Course of the Brenta.**—This stream rises in the formidable ravines on the south of Trent, flows through the deep and wild Val Sugana from west to east, turns south and washes PRIMOLANO, where begins a defile defended by fort *Cismone*;—BASSANO, where the road that skirts it from Trent bifurcates to Vicenza and Venice; battle of 1796, won by Napoleon over the Austrians;—CITADELLA, where the highway from Verona to Austria passes. Its muddy and sluggish waters then flow along an elevated bed, it turns to the S.E. and ends without any mouth in stagnant, green, polluted pools, among which the land ends and the sea commences without our being able to say precisely where.

Amid these lagoons VENICE lies, reared on from sixty to eighty islets, and seeming to float on the water; the channel that divides it from the mainland is 4 miles broad; but it is constantly decreasing in breadth, owing to the soil washed down by the Brenta, and the period may be calculated when the Queen of the Adriatic shall be entirely united to the mainland. The canals which intersect the city and answer the purpose of streets are threatened with the same fate, in spite of the care taken to clear them of mud and sand, and we may almost say that Venice is now being engulphed in the slime from which it originally emerged. Founded in the fifth century by the Veneti, who fled

before Attila, it was at first composed of the islands of Rialto and Malamocco, and seemed by its position to be destined for an altogether maritime existence. In the tenth century, the greatness of the republic was secured by the commercial immunities she obtained from the German emperors, the Eastern Cæsars, and the Egyptian caliphs; she then launched out on the Mediterranean as on her own domain, and monopolized the whole commerce of the Levant. The Crusades contributed to her aggrandizement; already mistress of Istria and Dalmatia, she coveted the possession of Greece, when she took an active part in the fourth Crusade, which resulted in the dismemberment of the Eastern Empire, and she obtained for her share Albania, the Morea, the Ionian Islands, Crete, &c. Her government had hitherto been democratic: the legislative power was vested in a senate, whose members were annually elected by the people; the executive power was in the hands of a duke or doge, also elected; in 1278 the Doge Gradenigo caused a law to be passed, abolishing the annual elections and irrevocably fixing in the senate all the members of that year and their descendants for ever. Thus was established the formidable aristocracy of Venice, which upheld her power for five centuries. In the fifteenth century the republic attained the climax of her greatness; she transacted all the commerce of Europe, and she had extended her dominion in Italy by the successive acquisition of all the neighbouring states; Padua, Vicenza, Verona, Bergamo, Brescia, Rovigo, Feltre, Belluno, Cadore, &c., were subject to her. The discovery of the Cape of Good Hope gave her a fatal blow; the Cambrai league proved ruinous to her; the Turks despoiled her successively of all her possessions in Greece; she gradually sank into complete decadence; she only lived on the memories of the past when the revolution of 1789 brought the French into Italy. The Venetian senate secretly favoured the Austrians, and Napoleon punished this defection in the treaty of Campo Formio, by obliterating this republic of thirteen centuries from among the European powers; Venice and her states as far as the Adige were handed over to Austria, and the remainder of her possessions were given to the Cisalpine Republic. The war of 1805 and the treaty of Presburg effected the union of the Venetian States to the kingdom of Italy; Napo-

leon then set about constructing immense works in the port of Venice; he covered the city on the land side with forts and redoubts, and wished to make of it a great place of arms, and the mart of the Levant trade. The treaty of 1814 restored it with all its ancient States to the dominion of Austria. Venice attempted in 1848 to regain her independence, but after sustaining a heroic siege, she fell again under the Austrian yoke, where she remained till emancipated by the campaign of 1866, when she was again united to the reconstituted kingdom of Italy. Her port was the largest Austria possessed, and the seat of all the imperial navy; recently constructed advanced works in the channels or harbours of the lagoons, and in the villages on the mainland, have made her a first-class stronghold; * but, in spite of all these, she continued to decline under Austrian rule although her population still numbered 120,000; her harbour was deserted, and the trade of the Adriatic passed over to Trieste. Hopes are entertained that her re-union to Italy may restore to her a part, if not all, of her past prosperity. A railway connects her with Mantua, and thence by Brescia with Milan; another crosses the Illyrian Alps and connects her with Vienna; and she is connected with Germany by the railway through the Brenner Pass.

5. **Course of the Piave.**—The *Piave* rises in the Carnic Alps, is enclosed on its right by the block of the Cadoric Alps, runs for the first half its course S.W., and for the remainder S.E.; it washes CADORE and BELLUNO, battle of 1797, leaves FELTRE on its right, and ends without any distinct mouth among the lagoons.—This river runs in an immense bed; but it is everywhere fordable except during floods. It may help to cover Venice by reason of the marshes it runs through, and Eugene Beauharnais in 1809 fought a battle with the Austrians on its banks. Its ancient bed receives the waters of the *Sile*, which runs by TREVISO, a town defended by old fortifications, and celebrated for the armistice of 1801.

6. **Course of the Livenza.**—It rises in the mountains that

* The harbour of *Malamocco* is defended by forts *Alberoni* and *San Pietro*; the harbour of *Chioggia* by forts *Caraman* and *San Felice*; the harbour of *Brondolo*, by the fort of [illegible]at island; the harbours of *Lido* and *San Erasmo*, by the forts *San Andrea* and *San Nicolo*; the harbours of *Tre Porti* and *Cavallino*, by batteries and redoubts. The principal work on the mainland is fort *Malghera*, which protects the Mestro channel.

shut in the Piave on the south, passes by SACILE, battle of 1809, where the Austrians beat Eugene Beauharnais, and ends in the lagoons. It is not wide and very short, but it is not easily fordable, and its banks are marshy.

7. **Course of the Tagliamento.**—It rises in the mountains enclosing the Piave, runs from N.W. to S.E., washing TOLMEZZO, defended by a fort; it receives the *Fella*, which rises in the pass of Tarvis, and washes CHIUSA VENETA, a fortified post; it then runs from the north to south, passes by OSOPO, a fortress of great importance for the protection of the road from Austria to Italy, forms a multitude of islets and channels, washes VALVASONE, near which Napoleon beat the Archduke Charles in 1797, and ends in the lagoons. This river is of great importance in consequence of the road it opens into Germany, and which was that taken by the French in 1797, 1805, and 1809.

8. **Course of the Ausa.**—This is a canalized stream that receives the *Roja* on its right. This latter washes UDINE, capital of the Friuli, near which lies CAMPO FORMIO, celebrated for the treaty of 1797; the Roja also passes by PALMA NOVA, a fortress.

9. **Course of the Isonzo.**—This stream rises in the N.W. of Mont Terglou, and receives on the right a torrent coming from the pass of Bredil, which opens the way to the pass, and washes CHIUSA DI PLETZ, a fortified post protecting the pass, engagement of 1797, where the French defeated the Austrians; it flows through impracticable mountains abounding in excellent positions, washes GORIZIA, or GÖRZ, defended by an old castle, and GRADISCA, a fortified town; passes between AQUILEIA, one of the most important cities of the Roman Empire, ruined by Attila, and MONFALCONE, a small town defended by a castle, and ends in the lagoons. It receives: 1, (on the left) the *Idria*, which runs past IDRIA, celebrated for its rich quicksilver mines;—2, (on the left) the *Wippach*, which rises in the pass of Adelsberg, near fort PREWALD.—The Isonzo, broad, rapid, and deep, forms the first line of defence of Italy against Austria; it is easily attackable from Chiusa di Pletz to Görz; but it is supported by Udine; from Görz to the sea we find the roads leading from Gradisca to Görz and Monfalcone; Palma Nova serves as a magazine and reserve for the whole line.

Appendix of Continental Italy. — Peninsula of Istria.— From Mont Javornik, on the south of the Adelsberg pass, in the Julian Alps, there runs S.W. a massive spur 3,280 feet high, forming the framework of the peninsula of *Istria*, which lies between the Gulfs of Trieste and Quarnero, its length is 54 miles, and its greatest breadth 40 miles. It is an unhealthy, poor, ill-peopled country, but fertile in vineyards and wood for building, and it has good harbours. The principal of them is TRIESTE, a fortified town and naval arsenal, and the chief commercial port of the Austrian empire; the others are CAPO D'ISTRIA, defended by a citadel; POLA, with a good harbour and citadel, and ROVIGNO, celebrated for its ship-building yards.— This peninsula forms a portion of the Austrian province called the *Littoral*, which comprises also almost all the basin of the Isonzo. Two thirds of this province, whose inhabitants are Slavonians or Italians, formed part of the late Germanic Confederation.

Political Divisions. — Continental Italy includes: — 1, the canton of *Tessin*, capital Bellinzona, which belongs to the Swiss Confederation (see page 212);—2, *Piedmont*, *Montferrat*, *Novara*, &c., the ancient states of the King of Sardinia;—3, *Lombardy*, taken from Austria in 1859, and given to the King of Sardinia;—4, the Duchy of *Parma* and *Piacenza*, formerly belonging to a prince of the house of Bourbon, now united to the kingdom of Italy;—5, the duchy of *Modena*, formerly belonging to an Austrian prince, now united to the kingdom of Italy;—6, the northern part of the former *States of the Church*;—7, *Venetia*, *Friuli*, &c., formerly belonging to Austria, now united to the kingdom of Italy;—8, *Italian Tyrol*, belonging to Austria.

Continental Italy is the military district of Italy, the usual theatre of the wars between France and Germany, the true rampart of the peninsula which always shares its fate, and is unable to afford it any help; accordingly the principle of the conquest of Italy is to obtain possession of the basin of the Po, before marching into the long narrow peninsula, and to abandon the latter entirely as soon as the former is attacked. It was thus that Hannibal and Napoleon proceeded to the conquest of Italy; Charles VIII., forgetful of this principle, rushed to conquer Naples without troubling himself about the basin of

the Po; but he had to fight his way through the Italian confederates when he wished to return to France; finally, Macdonald, in 1796, on hearing at Naples that the French had lost the basin of the Po, hastened to abandon the peninsula before his retreat should be cut off; but he had to fight a battle of three days' duration on the Trebbia, and he only brought into Genoa the remains of his army.

In our description of Germany we have seen how the Danube and the Po, having their basins formed of two great plains open to the east, barred by hills on the west, and separated from one another by an immense block of mountains, were connected in a military point of view, especially in operations directed against Vienna.

§ IV.—PENINSULAR ITALY.

Mountains.—South of the sources of the Ronco, the chain of the Apennines ceases to belong to the encircling belt of the Po; it assumes a S.E. direction, approaching close to the Adriatic, and increasing gradually in height and density as far as *Monte Corno*, near the centre of the peninsula, where, having attained its greatest elevation (9,521 feet), it commences to become gradually depressed. Near the lake of Pesole to the south of Venosa, it divides into two branches, which form the framework of the two peninsulas into which the main peninsula bifurcates; one of them, composed of plateaus and low hills only, ends on the S.E. in Cape Leuca, whilst the other, composed of the high mountains of the *Calabrias*, ends on the S.W. in Cape Spartivento, near which is the rugged height of *Aspromonte* (4,380 feet), the scene of Garibaldi's defeat and capture in 1864. This long chain presents the same characters as we have described in the Northern Apennines, except that the Southern Apennines are partly in a volcanic state; but the only active crater is Mount *Vesuvius*, an isolated mountain, 4,075 feet high, which has been entirely formed of ejected scoriæ. Throughout the whole length of the Apennines, large branches are thrown off, which in some places reach to the sea, which is the cause of there being but few and small plains; the largest run betwixt the Tiber and Arno, covering all Tuscany with their ramifications.—A few roads cross the Apennines: 1, from Fano to Foligno, and thence to Florence or Rome;—2, from

Ancona by Camerino to Foligno;*—3, from Ascoli, by Solmona, to Capua and Naples;—4, from Manfredonia, by Foggia and Avellino, to Naples;—5, from Taranto, by Potenza, to Salerno. But there are several parallel to the range; thus:—1, from Florence, by Sienna and Viterbo, to Rome;—2, from Florence, by Arezzo, Perugia, and Spoleto, to Rome;—3, from Rome, by Fondi, to Naples;—4, from Naples, by Salerno and Cosenza, to Reggio;—5, from Rimini, by Ancona, to Ascoli;—6, from Manfredonia, by Bari, to Otranto.

The chain of the Apennines divides the peninsula into three watersheds, of these the western sends its waters into the Tyrrhenian Sea, the southern into the Ionian Sea, the eastern into the Adriatic.

General Aspect.—The country, with great advantages of climate and soil, does not present the same characters on both its watersheds. The western watershed is warm, fertile, intersected by large streams, covered with vines and olives, unhealthy near the coast. It abounds in the wonders of antiquity, but is ill-cultivated, scantily peopled, reckons for little in the destinies of Europe, and lives only on its ruins and its memories. The eastern watershed is less fertile and colder, it is watered by mere torrents, which make as it were but one leap into the sea; it has large forests, wild valleys, some large plains, and in its aspect and soil bears a great resemblance to the country on the opposite side of the Adriatic.

WESTERN WATERSHED, FROM THE PASS OF CADIBONA TO CAPE SPARTIVENTO.

1. The *Polcevera* and *Bisagno*, torrents which are dry half the year, run under the walls of GENOA.

GENOA is built at the head of the gulf of the same name, along which it extends in a semicircle for more than two miles; it rises in the form of an amphitheatre on the arid and scorched terraces of the first heights of the Apennines, between the two little val-

* Railways now traverse Italy between:—1, Genoa, Turin, Milan, Venice, and Trieste; 2, Genoa, Leghorn, Rome, and Naples; 3, Turin, Bologna, Ancona, and Brindisi; 4, Leghorn, Florence, Bologna, and Venice; 5, Florence and Rome by two lines, through Sienna or Perugia; 6, Rome and Ancona. Others are constructing.

leys of the Polcevera and Bisagno. Lying in a basin commanded by heights on all sides, it could only be fortified by enclosing within its enceinte the heights that rise successively from the sea-shore to Monte Diamante (3,280 feet). This enceinte, composed of sixty bastions, forms an isosceles triangle, of which the harbour is the base, and fort Eperon the apex; it has nine principal fronts: three on the west, one on the north, and five on the east, which is the vulnerable side; on the south are batteries and a battlemented wall; fort Eperon is the key of the fortress, it has fort Diamante for an advanced work; both are secure from a regular attack by their position; moreover, the town is immediately covered by a second interior enceinte, composed of forty bastions.—Genoa (Genua) was of little importance under the Romans; laid waste by the Lombards and re-established by Charlemagne, it had counts for sovereigns until the twelfth century, when it formed itself into a republic, which was constantly undergoing revolutions. Still the Genoese profited by their admirable position to form a navy, which long contested with Venice the empire of the sea, and to establish an immense trade with the whole known world; they had establishments in Greece, mercantile houses in Asia, colonies in the Crimea; they possessed Corsica, Sardinia, the Balearic Islands, Malta, Cyprus. This maritime power fell after the discovery of the Cape of Good Hope. Wearied with their turbulent and transient governments, the Genoese put themselves, in 1396, under the protection of France; in 1409 they massacred their French garrison and gave themselves to the Marquis of Montferrat; then they transformed themselves into a republic; after this they became subject alternately to the dukes of Milan, the kings of France, and the emperors of Germany; finally, in 1528, Andrew Doria established in his country an aristocratic government that lasted till 1797. Then Napoleon made a change in the Genoese constitution, and gave a more popular character to the republic, which he called *Ligurian*. The attempt was not a happy one, and the Genoese were discontented with the patronage of France, when the French army, after the disasters of the campaign of 1799, took refuge in their city, and there sustained a memorable siege; they then fell beneath the sway of Austria, returned under that of France after the battle of Marengo, and received from Napoleon a new constitution, which lasted until 1805; at that period

the Genoese senate petitioned for the union of the Ligurian republic with the French Empire. Then Genoa and its territory formed three French departments. In 1814 it again became an independent republic under the protection of Great Britain; but in 1815, it was given to the King of Sardinia. Very much fallen away from its pristine splendour, it is still very important on account of its harbour, which is one of the naval arsenals of the Italian kingdom, on account of its admirable situation, which commands the entrance into Italy, and on account of its population of sailors, its trade, and its fortifications; it has 127,000 inhabitants, and contains a cannon foundry, a manufactory of small arms, ship-building yards, a naval school, &c. A railway connects it with Alessandria and Turin. Colombus was born here.

The sea-shore from Genoa to the gulf of Spezzia is called the *Riviera di Levante*, in opposition to the Riviera di Ponente (see p. 195). No streams are met with here, and the Apennines seem to rise almost perpendicularly from the sea. We observe PORTOFINO, RAPELLO, CHIAVARI, small ports. Then comes the magnificent bay of SPEZZIA, at the head of which lies the town of the same name, defended by several forts, and whither the government naval establishments at present at Genoa are to be transferred.

2. The *Magra* washes PONTREMOLI, a small town, formerly fortified, at the entrance of the pass of that name, taken repeatedly by the French; it ends below SARZANA, which is defended by a castle.

3. The *Serchio* washes LUCCA, the capital of a republic which survived until 1805, when it was transformed into a sovereign duchy. This duchy was united to Tuscany in 1847, and now belongs to the kingdom of Italy.

4. The *Arno* rises in Monte Falterona, runs from S.E. to N.W parallel to the crest of the Apennines, and leaves on its left AREZZO, a town defended by an old castle, sacked by the French in 1800; the birthplace of Petrarch and Concini; it then runs west, through FLORENCE (Firenza), the most flourishing of the mediæval Italian republics, the ancient capital of Tuscany, defended by two forts and a wall flanked by towers; the birthplace of Dante, Michel Angelo, Machiavelli, Galileo, &c.; population, 110,000; now the political capital of the kingdom of Italy. It

terminates below PISA, a celebrated republic in mediæval times, ruined in 1406 by the Florentines, now surrounded by marshes, and defended by a modern citadel.—The Arno is an embanked and canalized river like the Pò; it communicates with the Tiber by the Chiana Canal, and receives: the *Sieve*, which passes by SAN MARTINO, arsenal and cannon foundry; the *Ombrone*, which passes near PISTOJA, a town of importance on account of its manufactory of small arms.

Between the Arno and the Tiber the coast is a pestilential district, called the *Maremma*, uncultivated, inundated, uninhabited; a canal is being made through it to convey the waters of the Ombrone, for the purpose of making it wholesome. The principal streams are: the *Ombrone*, one of whose secondary tributaries washes SIENNA, an ancient republic, fallen to decay, which possesses an old citadel; the *Marta*, which rises in the lake *Bolsena*, receives a tributary, the Arcone, that passes by VITERBO, and ends below CORNETO. — On the coast we find: 1, LEGHORN (Livorno), the best port in Tuscany, and one of the most flourishing in the Mediterranean; it is protected by several forts; population, 83,000;—2, PIOMBINO, a small port, defended by a fort, opposite the island of Elba;—3, ORBITELLO, a small fortified town on a lake, separated from the sea by Monte Argentaro;—4, CIVITA VECCHIA, a fortified port, with a military arsenal and ship-building yards. It is the only port in the Pontifical dominions that can admit ships of war.

5. The *Tiber* (Tiberis) rises in Monte Coronaro, flows from north to south, washes PERUGIA, a town of 14,000 inhabitants, defended by a citadel; at a distance of 7 miles from it is a lake of the same name, and which is the ancient *Thrasymene*, celebrated for the battle in which Hannibal defeated the Romans. It leaves on its left TODI, celebrated for the battle in which Narses defeated the Ostrogoths; on its right CIVITA CASTELLANA, battle of 1799, in which Championnet defeated the Neapolitans, on its left MENTANA (Nomentum), a village, the scene of the defeat of Italian volunteers under Garibaldi, by the combined Pontifical and French forces in 1867; it washes ROME, the most celebrated city in the world, twice the metropolis of the West, first by the arms of the Romans, then by the Christian faith; founded 752 years before Christ; capital of the Roman Empire, and after-

wards of the Western Empire; capital of the kingdom of the Herules in 476, of that of the Ostrogoths in 493, of the new Western Empire created by Charlemagne in 800, finally of the States of the Church; taken by the Cisalpine Gauls in 390 before Christ, by the Visigoths in 410, by the Vandals in 455, by the Herules in 476, by the Ostrogoths in 492, by the Greeks in 553, by the Germans in 1084, by the adventurers under the Constable de Bourbon in 1527, by the French in 1798 and 1849, &c. It was part of the French Empire from 1810 to 1814, and was occupied by a French army from 1849 to 1866, and again in 1867. It is surrounded by a bad bastioned enceinte, and contains 197,000 inhabitants.—The Tiber falls into the sea at OSTIA, formerly a flourishing town and the port of Rome, now deserted and wretched. It is the largest river in the peninsula; it is narrow, deep, and rapid; its length is about 200 miles, for 80 of which it is navigable; it receives forty tributary streams, the most important of which are: 1, the *Chiana*, on the right, into which falls the canal connecting the Tiber with the Arno;—2, the *Topino*, on the left, which receives a secondary tributary, the *Chiasco*, that flows past ASSISI, defended by an ancient citadel; it passes by FOLIGNO, of importance on account of its position at the issue of two roads through the Apennines, and receives a tributary, the *Maroggia*, that washes SPOLETO, a town celebrated in old times, and defended by a strong castle;—3, the *Nera*, on the left, which washes TERNI, and receives the *Velino*, which washes RIETI, and is joined by a tributary, the *Salto*, that passes TAGLIACOZZO, battle of 1268, won by Charles of Anjou over Conradin of Hohenstauffen;—4, the *Teverone*, on the left, which flows by TIVOLI (Tibur).

Between the Tiber and the Garigliano, the coast is one of the most unhealthy in Europe; ague seems to be acclimatized there, and the few inhabitants of the Pontine marshes are haggard and miserable. It is slightly indented in the southern part to form the Gulf of Gaeta. We find here: 1, TERRACINA, a half-ruined town and harbour at the end of the marshes;—2, GAETA, a very strongly fortified town, on a rock connected with the mainland by a neck of land 2,600 feet in length, covered with fortifications, and the only way by which the town can be attacked; taken by the French in 1799 and 1806, and by the Piedmontese in 1860. It is the key to the former kingdom of Naples.

6. The *Garigliano* is formed by the *Liri* and *Sacco*. The Liri flows from N.W. to S.W. and passes near ARPINO, the birthplace of Marius and Cicero. The Sacco flows from west to east, and in its basin are situated ANAGNI and FROSINONE. After the junction of these two streams, the Garigliano flows from N.W. to S.E., passes by PONTE CORVO, and ends near the spot where MINTURNÆ was situated. The last part of its course is celebrated for the defeat of the French in 1503.

7. The *Volturno* (Volturnus) flows from N.W. to S.E., receives a tributary, the *Calore*, that runs by BENEVENTO, a town of importance in the middle ages, as it was the residence of the sovereigns of Lower Italy; battle of 1266, gained by Charles of Anjou over Manfred of Hohenstauffen; it then flows from N.E. to S.W., washes CAPUA, a fortified town, with a citadel, a bridge-head, an arsenal, &c., taken by the French in 1799 and 1806, and by the Piedmontese in 1860.

From the Volturno to Cape Spartivento we meet with only unimportant torrents, but on the coast are several remarkable places: 1, CUMA, a village built on the site of ancient *Cumæ*, the oldest town in Italy.—2. BAIA, near Cape Misene, formerly the favourite sojourn of the grandees of Rome, now a miserable hamlet, with roads and a harbour, which was in old times the ordinary station of the Roman fleet, and which is now defended by a fort.—3. POZZUOLI (Puteoli), a badly fortified town with a good harbour, near which is the *Solfatara*, a volcanic district whence immense quantities of sulphur are procured.—4. NAPLES (Neapolis, Parthenope), capital of the late kingdom of the Two Sicilies, defended by three forts: St. Elmo, which commands the town; Castel dell' Ovo, on a rock in the sea; and Castel Nuovo, near the harbour; it is admirably situated, in an amphitheatre between Posilippo and Vesuvius, at the head of a bay 45 miles in circumference; taken by the French in 1494, 1501, 1799, and 1806; population, 418,000.—At the entrance of the Bay of Naples are three islands: ISCHIA, volcanic, very fertile and fortified;—PROCIDA, which possesses a fort and ship-building yards;—CAPRI, fortified, celebrated as being the deathplace of Tiberius; taken by the French in 1806.—5. PORTICI, at the foot of Vesuvius, and built on the ruins of Herculaneum, which was overwhelmed by the eruption of 79.—6. TORRE DELL' ANNUNZIATA, a manufactory of small arms near the ruins of Pompeii.—7.

Castellamare (Stabiæ), a large port, defended by two castles, the chief ship-building yard of the Neapolitan navy; engagement of 1799, in which Macdonald defeated the Neapolitans.—8. Sorrento, the birthplace of Tasso.—9. Amalfi, a small port, a celebrated republic in the middle ages.—10. Salerno, at the head of a beautiful bay, with a bad harbour.—11. Capaccio, not far from which is Pæstum or Pesto, a town destroyed by the Normans in 1080, and of which some fine ruins remain.—12. Policastro, a semi-ruinous town, at the head of the gulf of that name.—13. Sta. Eufemia, a small town, which gives its name to a gulf on the shore of which was fought the battle of Maida, 1806, in which Régnier was defeated by the British.—14. Pizzo, a small port in the Gulf of Sta. Eufemia, where Murat landed in 1815, and where he was shot.—15. Seminara, battle of 1495, won by the French over the Spaniards; battle of 1503, lost by the French.—16. Scilla, a small town, defended by a fort that protects the entrance to the straits of Messina.—17. Reggio, on the straits of Messina, partially destroyed by the earthquake of 1783.

SOUTHERN WATERSHED, FROM CAPE SPARTIVENTO TO CAPE LEUCA.

The coast, fringed with perpendicular rocks, and indented by the great Gulf of Taranto, offers few remarkable points. Besides the sites of ancient *Sybaris* and *Heraclea*, we find: 1, Crotone, a small fortified port, built on the ruins of Croton;—2, Taranto, a fortified town, with a harbour that is being silted up, and a magnificent roadstead, admirably situated for commanding the Mediterranean, and trading with the Levant; it served as a bulwark for the Carthagenians in their resistance to the power of Rome, and Napoleon wished to make of it one of his great maritime fortresses;—3, Gallipoli, a fortified town, with a good harbour.

The streams that furrow this watershed are mere torrents, dry for one half of the year; the chief of them are: 1, the *Crati*, which passes by Cosenza, a town celebrated for the death of Alaric; one of its tributaries, the *Coscile*, runs by Castro Villari, which has old fortifications;—2, the *Agri* (Aciris);—3, the *Basento*, which passes Potenza;—4, the *Bradano*, which runs by Acerenza (Acherontia), a town celebrated in the time of the Romans and defended by a castle. Near its mouth is the site of *Metapontus*.

All this region is mountainous, wild, abounding in excellent pasture-land: it is the only portion of the whole peninsula that resisted Napoleon's rule.

EASTERN WATERSHED, FROM CAPE LEUCA TO THE RONCO.

The coast is less indented than that of the western watershed; it throws out few projections, one of which, however, Monte Gargano, is of considerable size. Between Cape Leuca and the Ofanto, we find the following remarkable points: 1, OTRANTO (Hydruntum), a fortified town, with a harbour;—2, BRINDISI (Brundusium), a fortified town, with a harbour filled with sand, defended by two forts; in ancient times it was the ordinary place of passage between Italy and Greece;—3, BARI, a fortified town with a harbour;—4, TRANI, a fortified town that played an important part in the wars between the houses of Anjou and Aragon;—5, BARLETTA, a fortified town with a harbour.

1. The *Ofanto* (Aufidus) runs from west to east; it leaves on its right MELFI, formerly a town of importance, near which is VENOSA, the birthplace of Horace, and the grave of Robert Guiscard, and on its left CERIGNOLA, battle of 1503, lost by the French; it runs through the plains where the battle of CANNÆ was fought, B.C. 216, in which Hannibal defeated the Romans, and ends to the north of Barletta.

2. The *Candelaro* flows through the greater part of the Capitanata, and ends in the Gulf of Manfredonia. It receives the *Celone*, which passes near FOGGIA, chief town of the Capitanata, where Charles of Anjou died.

3. The *Biferno* passes near CAMPOBASSO, important on account of the road which connects Naples with the Adriatic cities.

4. The *Pescara* has two sources, the *Aterno* and the *Gizio*, whose two opposing basins form the high plateau of the Abruzzi; the *Aterno* washes AQUILA (Avella), a town defended by a fort. The Pescara passes by CHIETI (Teate), and ends at PESCARA, a fortified town.

5. The *Tordino* washes TERAMO, an important and indifferently fortified town.

6. The *Tronto* washes ASCOLI; one of its tributaries passes by CIVITELLA DEL TRONTO, a small town situated on a hill, and fortified.

7. The *Chienti* washes CAMERINO and TOLENTINO, celebrated for the treaty of 1796 and the battle of 1815, in which Murat was defeated by the Austrians.

Between the Chienti and the Metauro we find on the coast: 1, LORETO, a small town celebrated for the pilgrimage to the *Santa Casa*;—2, ANCONA, a town defended by a strong citadel with a good harbour, the most important on the east side of Italy; taken by the French in 1798 and 1832; it stood a remarkable siege in 1799 under the French against the Austrians. Between Loreto and Ancona, on the left bank of a small stream, the *Musone*, is CASTEL FIDARDO, battle of 1860, in which the Pontifical army was defeated by the Italians, who thereupon annexed Umbria and the Marches. 3, SINIGAGLIA, defended by an old castle.

8. The *Metauro* (Metaurus) washes FOSSOMBRONE, leaves on its left URBINO, and ends at FANO; it was on the banks of this river that the battle was fought in which Hasdrubal was defeated by the Romans.

9. The *Foglia* (Pisaurus) ends at PESARO (Pisaurum).

10. The *Marecchia* (Ariminus) ends at RIMINI (Ariminium); in its basin on a height stands the town of SAN MARINO, protected by three small forts, a little republic of 7,500 inhabitants.

11. The *Rubicon*, a brook reckoned important by the Romans, as marking the boundary between Cisalpine Gaul and Italy proper.

12. The *Savio* (Sapis) washes CESENA.

13. The *Ronco* (Roncus) washes FORLI, near the mouth of which on the left bank stands RAVENNA, an ancient and large town, a good port in the time of the Romans, now 4 miles distant from the sea; battle of 1512, won by the French over the Spaniards.

Political Divisions.—The Italian peninsula comprises the new kingdom of Italy together with Rome and its territory, before 1860 it was divided thus: 1, part of the Duchy of *Genoa* (Sardinian States); 2, the Grand Duchy of *Tuscany*; 3, *States of the Church*; 4, kingdom of *Naples*, subdivided into the following provinces: the *Abruzzi*, *Terra di Lavoro*, *Principato Ultra*, *Principato Citra*, *Calabria Citra*, *Calabria Ultra*, *Basilicata*, *Capitanata*, *Terra di Bari*, and *Otranto*.

We have seen that this peninsula is too narrow and too deep

to allow of its becoming a continental power, and that in the present condition of Europe it could never resume the part it played under the Romans. It can now with difficulty avoid being conquered; as it does not possess the space required to manœuvre easily on either watershed of the Apennines, the armies that invaded it only had to push forward against those that defended it. Holding Rome and Ancona we possess peaceably all the northern part, and we can advance securely in the southern part, which can do nothing in the north except by sending troops thither in ships. This was proved by the campaigns of Charles VIII., of Louis XII., of Championnet in 1798, of Massena in 1806, &c. The frontier of the late kingdom of Naples is covered by the spurs of the Apennines which separate the basin of the Tiber from those of the Pescara and Garigliano; they have only five issues: 1, the Adriatic road, bad, intersected by torrents and defended by Civitella and Pescara; 2, the pass of Antrodoco, which leads from the valley of the Velino to that of the Pescara; 3, the pass of Tagliacozzo, which leads from the valley of the Velino to that of the Garigliano; 4, the valley of San Germano, which is 25 miles long by 5 wide, a fertile country without obstacles, traversed by the road from Rome to Naples: it is the ordinary route of an invading army; 5, the Tyrrhenian Sea road, hemmed in, bad, defended by Gaeta and the Garigliano.

§ V.—INSULAR ITALY.

1.—CORSICA.

This island, lying west of the peninsula and south of the continental part of Italy, is 116 miles long, its greatest breadth being 52 miles. Its superficial measurement amounts to 3,380 square miles. A chain of mountains runs through it from north to south, containing peaks that almost reach the limit of perpetual snow: the *Monte Rotondo* (9,069 ft.) and the *Monte d'Oro* (8,700 ft.). These mountains are very steep and form a great many ravines but few valleys, plains are therefore very rare except on the east coast, where the streams not having any fall form marshes. The coasts are indented by several safe and deep bays: there are five roadsteads that can shelter fleets. Thus we

find that Corsica presents a vast chain of peaks covered with snow; and hills of meaner altitude, with flanks bare or covered with dense forests; narrow, deep, and sombre valleys; streams that are mere torrents; small plains on the banks of brooks and near the coast where corn-fields alternate with marshes; a soil badly cultivated but rich in wood, marble, and iron mines; small towns scantily peopled, isolated houses perched on the tops of low hills covered with olive trees; bad roads, good harbours, a healthy climate, a race of men energetic, intelligent, fierce in their hatreds, and passionate in their loves.

The original inhabitants are supposed to have been Phocæans and Ligurians; then came the Carthaginians who were expelled by the Romans. It formed part of the great Empire until the fifth century, when the Goths took possession of it; thereafter it fell successively under the rule of the Byzantine emperors, the Lombards, the Saracens, and the Franks. When the dismemberment of Charlemagne's empire took place, Corsica had its feudal barons; the Pisans seized it, and were driven from it by the Genoese, who remained masters of the island for four centuries. The Corsicans were constantly revolting against their rulers, and Genoa was forced more than once to have recourse to French aid to enable her to retain these indomitable islanders under her yoke; at length in 1763 the degenerate republic, finding herself unable to exercise her sovereign rights, made them over to France. Corsica struggled for several years against her new masters, was finally subjugated in 1769, and declared to be a French province: that very year there was born in Corsica the man who brought French glory to its apogee, Napoleon Bonaparte.

This island now forms the department of Corsica; it differs widely from its adopted country in the character of its inhabitants, its language, and the nature of its soil; poor, sterile, and expensive, its only importance to France is as a naval station. Corsica cannot form an independent state, and in any other than French hands it would be a perpetual menace to Marseilles and Toulon; hence it was necessary to incorporate it with France. Moreover, notwithstanding all the laws of physical geography, since it has given to the world the greatest Frenchman of modern times, it cannot be otherwise than French.

Principal Towns on the East Coast.—1, BASTIA, the ancient capital of Corsica, with a good harbour defended by a citadel and four forts, chief town of the 17th military division;—2, Torre d'ALERIA, at the mouth of the *Tavignano*.—This river, the largest in the island, rises in Monte Rotondo and at the foot of that hill washes CORTE, a fortress with a citadel, important by its situation in the centre of the island, on the road from Bastia to Ajaccio, which it commands;—3, PORTO VECCHIO, a small ill-fortified town, at the head of a large and deep bay, one of the best harbours in the Mediterranean.

Principal Towns on the West Coast.—1. ST. FLORENT, a small town defended by a fort at the head of a magnificent haven. —2. ILE ROUSSE, a military post.—3. CALVI, formerly very strongly fortified, with a castle and fort *Mourello*; its harbour, which would shelter a fleet, is very little frequented; besieged by the British in 1794.—4. Fort of GIROLATA, a military post. —5. AJACCIO, chief town of the department of Corsica, with a good harbour and a citadel; birthplace of Napoleon. It is connected with Bastia by a fine road, on which we find: fort VIZZAVONA, fort VIVARIO, and farther on CORTE.—6. BONIFACIO, an ill-fortified town on the strait separating Corsica from Sardinia.

2.—ISLAND OF ELBA.

This island lies on the west coast of Tuscany, and is 60 miles in circumference. PORTO FERRAJO, the capital, is a fortress commanding the navigation of the west coast of Italy; it was taken by the French in 1801. The second town is PORTO LONGONE, fortified, with a castle built on an inaccessible rock.—The island of Elba formed part of France from 1801 to 1814; it was given to Napoleon for a kingdom in 1814; it was hence he made his descent on the French coast in 1815. It now belongs to the kingdom of Italy.

3.—SARDINIA.

This island, 160 miles long by 70 broad, is intersected from north to south by an immense chain of mountains, apparently a continuation of the Corsican system; though fertile, it is ill cultivated, scantily peopled, insalubrious, covered with forests,

without manufactures; its towns are rare, but it possesses some good harbours. The capital is CAGLIARI, with a fine harbour, a citadel and 30,000 inhabitants; the other towns are ORISTANO, PORTO-CONTE, ALGHERO, and CASTEL-SARDO, fortified ports. We find besides, in the islets round the coast, the forts of *Carlo Forte*, *San Antioco*, *Maddalena*, *San Stefano*, &c.—Sardinia has undergone many revolutions: conquered successively by the Carthaginians, Romans, Vandals, Greeks, Franks, and Saracens, it was wrested from the last-named by the Genoese and Pisans, who contended for the possession of it. In 1297, the King of Aragon took possession of it, and it formed part of the Spanish monarchy until 1713, when, by the treaty of Rastadt, it was ceded to the Emperor Charles VI. In 1720, it was given in exchange for Sicily to Victor Amadeus II., Duke of Savoy, who took from it the title of king. Population, 547,000.

4.—LIPARI ISLES.

These islands, lying north of Sicily, and called by the ancients Æolian or Vulcanian, are entirely volcanic.—LIPARI, the largest, possesses a fortified town.—STROMBOLI has a volcano always in activity; near it was fought a naval battle in 1676, in which the French were victorious.—They belong to the kingdom of Italy.

5.—SICILY.

This fine island, lying between Italy and Africa, is a triangle, the north and south sides being about 175 miles each in length, and the eastern side about 120 miles. Its framework is formed by a prolongation of the Apennines across the straits of Messina, and is composed of three small chains which join in a central group. The apices of the three angles are represented by Cape Boco on the west, Cape Passaro on the S.E., and Cape Faro on the N.E. On its east side, at some miles distance from the sea, is *Mount Etna*, an immense active volcanic mountain, 100 miles in circumference at the base, and 10,874 ft. high; it does not belong to the Sicilian chain, and seems to have been entirely formed by the ejected matters. This island is wonderfully fertile, has a most agreeable climate, and an exquisitely clear

sky; but it is very badly cultivated, has no roads, no manufactures, and little trade, notwithstanding the safety and the number of its ports. It has 2,230,000 inhabitants, turbulent, superstitious, scarcely civilized, but full of pride and patriotism.

It served as a battle-field for the Carthaginians and Romans; it finally remained in the power of the latter, who regarded it as the granary of Italy; it was subdued by the Arabs in 827, and by the Normans in 1060. After the Normans its sovereigns were the emperors of the house of Hohenstauffen, and after them the kings of the house of Anjou. The Sicilian Vespers placed it under the dominion of the kings of Aragon, and it belonged to the Spanish monarchy until 1713, when it was assigned by the treaty of Utrecht to the Duke of Savoy; in 1720 it was given to the emperor Charles VI.; and in 1738 to the infant Don Carlos, whose descendants reigned there until 1760. In that year it was conquered by Italian volunteers under Garibaldi, and was annexed to the kingdom of Italy.

It presents three watersheds: on the western watershed we find: 1. Messina, one of the best ports in the Mediterranean; a first-class military position, defended by an immense citadel, forts, and batteries; 62,000 inhabitants; occupied by the French in 1675; naval battle of 1676, won by the French over the Dutch; —2, Taormina, a small fortified town;—3, Catania, a large town with 64,000 inhabitants, at the foot of the last heights of Etna, which has often covered it with lava;—4, Agosta, a good port, defended by a citadel and several forts; naval battle of 1676, won by the French;—5, Syracuse: of this town, so celebrated for its power and wealth, which resisted the Carthaginians, destroyed an Athenian army, and was only taken by the Romans after a long siege, there only remains the small island of Ortygia, the harbour of which is still important, and which is defended by a bastioned wall and a castle; its remains cover a space 20 miles in circumference, and its large harbour is partly silted up with sand.—On the southern watershed we find: 1, Girgenti (Agrigentum), a small ill-fortified port;—2, Mazzara, an indifferently fortified port.—On the northern watershed lie: 1, Marsala, situated near ancient *Lilybæum*, a busy commercial port;—2, Trapani (Drepanum), a fortified and commercial town; on the north of this town is Monte S. Giuliano (Eryx), and on

the west, between Trapani and Marsala, the *Ægates* islands, celebrated in the wars of the Carthaginians and Romans, now defended by two forts;—3, PALERMO (Panormus), the capital of Sicily, with a good harbour, defended on the land side by a strong enceinte, and on the sea side by good fortifications and two castles; population, 167,000; naval battle of 1676, won by the French;—4, TERMINI, the ancient *Himera*, a fortified port; —5, MILAZZO (Mylæ), a good port defended by a fortress, celebrated for the first victory of the Romans over the Carthaginians.

6.—MALTA.

This island is a calcareous rock, baroly covered with soil; 15 miles long by 8 broad, with 145,000 inhabitants. The capital is VALETTA, one of the strongest fortresses in Europe, divided into five towns or fortresses, which may be successively defended, whose formidable works are excavated in the rock; taken by the French in 1798, and by the British in 1800. Its harbour, defended by five large forts, is the safest in the Mediterranean: a haven for a navy and starting point for offensive operations; it commands the whole sea, menaces Toulon and Carthagena, Minorca and Corsica, is the key to Africa and Italy, and watches Algiers and Messina.—This "diamond of the Mediterranean," the finest military position in all Europe, belonged, before the French Revolution, to the knights of the order of St. John of Jerusalem, to whom it was given by Charles V., after the capture of Rhodes by the Turks; it was in fact a French colony, for the order of Malta, a relic of the Crusades, was under the protection of the power which had taken the greatest part in the holy wars. Napoleon took possession of it on his way to Egypt, but the British soon drove the French out of it, and refused to give it up, notwithstanding the stipulations of the treaty of Amiens. This was the principal cause of the renewal of the war, which only terminated by the ruin of Napoleon. This rock is the most important of the English positions, and the usual station of their fleet in the Mediterranean.

§ VI.—STATISTICS.

SUPERFICIAL MEASUREMENT IN SQUARE MILES.	POPULATION.	ARMY.	NAVY.	REVENUE.	DEBT.
			Kingdom of Italy.	£.	£.
109,832	24,777,000	494,800	75 ships 20,627 men	31,763,764	211,503,296
			Pontifical States.		
4,544	700,000	11,312	...	1,287,747	19,166,600

CHAPTER VI.

GREEK REGION.

§ 1.—GENERAL IDEAS.

The *Greek region* is composed principally of a large peninsula, attached to the eastern part of the southern mountain belt of the basin of the Danube, from Mount Kernicza to the Bosphorus just as the Italian region is attached to the western part of the same belt; hence these two peninsulas seem to be the southern appendices of the central basin of Europe. It forms a triangular mass, whose base is the arc of mountains described by the Dinaric Alps and the Balkan, and whose apex is Cape Matapan; the western side is bounded by the Adriatic and Ionian Seas; the eastern side by the Archipelago, the sea of Marmora and its two straits. To this peninsula we must add the islands, which are very numerous, especially on the east.—This region lies between E. long. 15° 10′ at Mount Kernicza, and 29° 5′ at the Bosphorus, and between N. lat. 45° 30′ at Mount Kernicza, and 34° 50′ on the south coast of Crete. Length of the line drawn from Mount Kernicza to Constantinople, 650 miles; length of the line drawn from Mount Scardo to Cape Matapan, 375 miles.

This immense promontory, bristling with precipitous chains, furrowed by deep and short valleys, indented with gulfs, fringed with islands, abounding in caves, subject to earthquakes, seems

to be the remains of a country once broader and less rugged, which has been turned topsy-turvy by volcanic revolutions, of which its islands bear many traces. As we recede from the great chain of the Balkan, all regularity in the arrangement of the land disappears, it becomes torn as it were into numerous shreds, the mountains are broken up, the coasts ironbound and deeply indented, the capes and islands present wild points and groups. In the north there are some plains, navigable rivers, fine forests, a temperate climate; in the south there are only bare mountains, torrents, and an often insupportable heat; but the islands abound in fruits, wine, silk, and marble, and present the most exquisite scenery and the mildest climate in Europe.

The physical characters and the geographical position of this country account for the influence it has exercised over the destinies of humanity. Its beautiful sky, its picturesque scenery, and even its not very fertile soil, kindled in its inhabitants activity, intelligence, and a love of the fine arts; its maritime position made them a seafaring and trading people, whilst its indentation by numerous bays and its multitude of islands were favourable to piracy; its natural partition into little bits of country necessitated its division into little states, and fostered that love of local independence which became extinguished in Roman unity; finally, as its northern mountain belt isolated it from the north of Europe, it was forced to expand itself on Asia, from which it is only separated by two sea-rivers, as they may be called, and by chains of islands which seem like natural bridges; and placed in the vanguard of the West, it was forced to struggle for 2,000 years against the Asiatic invasion. It fell; but by that time its mission was accomplished; for the nations of the Atlantic, who owed to it their civilization, were in their turn able to arrest the invaders, and they did, in fact, shut them up in this country, which, thirty-six years ago, partly shook off the yoke of the Asiatics, and ever tends to absorb them into European civilization.

The framework of Greece is composed of the long semi-circular chain of the Dinaric Alps and the Balkan, and of all the chains running off southwards from them. Among these, the principal, which may be called *Hellenic Alps*, is given off from Mount *Scardo* or *Tchar-Dagh*, and runs in a very tortuous and

confused manner from north to south, dividing the waters of the Adriatic from those of the Archipelago; it culminates in Mount *Pindus*, near the centre of the peninsula, inclines towards the S.E., forming Mount *Parnassus* (5,904 feet), Mount *Helicon* (4,592 feet), Mount *Citheron* (4,260 feet), as far as the narrow neck separating the gulfs of Lepanto and Athens; it then traverses the isthmus of Corinth by Mounts *Geranea* and *Onea*, which form a frightful defile suspended betwixt sky and sea; finally, it expands over the peninsula of the Morea in five branches, which follow all its indentations and form a small central plateau; the farthest south is Mount *Taygetus* (7,954 feet), which ends at Cape Matapan (Tænarum). All this long, very intricate, and dense chain is but imperfectly known; it may be about 450 miles in length, and its highest peaks are from 9,000 to 10,000 feet in height. It throws off to right and left frequent and confused branches which run to the sea, and enclose small, not very distinct, and very mountainous basins; the largest of these branches is given off from the group of Mezzovo, runs from west to east under the name of *Olympus* (Lacha), between the Vardar and Salembria; it may be about 6,560 feet high.

The defiles of the Hellenic Alps are few and difficult. The principal go: 1, from Prisrend on the Drin to Ouskop on the Vardar; 2, from Ohkrida to Monastir; 3, from Berat to Castoria; 4, from Janina, by Mezzovo, to Grevno or Tricala. These roads connect Albania with Macedonia.

The Hellenic Alps divide Greece into: 1, western watershed, or that of the Adriatic and Ionian seas; 2, eastern watershed, or that of the Archipelago; 3, peninsula of Morea; 4, islands.

§ II.—HISTORY OF THE GEOGRAPHY OF GREECE.

In ancient times Greece was divided into three great parts, besides the islands: Barbarian Greece on the north, Greece Proper in the middle, Peloponnesus on the south. Barbarian Greece comprised *Illyria* and *Epirus* on the Adriatic, *Thrace* and *Macedonia* on the Ægæan Sea. Greece Proper comprised: *Acarnania*, *Ætolia*, the country of the *Locri Ozolæ* and *Phocis*, on the Ionian Sea and the Gulf of Corinth; *Thessalia*, the country of the *Locri Opuntii*, on the Ægæan Sea; *Bœotia*, on the Gulf of

Corinth and the Euripus; *Attica*, on the Ægæan Sea and the Saronic Gulf; *Megara*, in the Isthmus of Corinth. The Peloponnesus comprised: *Sicyonia* and *Achaia*, on the Gulf of Corinth; *Elis* and *Messenia*, on the Ionian Sea; *Laconia* and *Argolis*, on the Ægæan Sea; *Corinthia*, on the Saronic Gulf and Gulf of Corinth; and lastly, *Arcadia*, in the centre of the peninsula.

All the small states of Greece Proper and of the Peloponnesus had a most brilliant career in ancient times; but their independence was often threatened by the Persians, who were the masters of Western Asia, and sought to invade Europe. By their heroism they hurled back the Asiatic hordes; but, in consequence of the smallness of their territory and population, they were unable to invade Asia in their turn until Barbarian Greece was received into the Greek family. Then Macedon employed against the south the intelligence she had derived from the latter; she subjugated Greece Proper, and formed the whole peninsula into a single power, formidable alike by the resources of its civilization and the number of its soldiers. Alexander destroyed the Persian empire, and made invasions impossible for nine succeeding centuries, by founding a Greek empire whose limits were: on the north, the Danube, the Caucasus, the Iaxartes; on the east, the Indus; on the south, the Persian Gulf, the deserts of Arabia and Lybia, and the Mediterranean; on the west, the Adriatic Sea.

On the death of the conqueror, this immense empire was divided, and Greece formed the kingdom of Macedon, which underwent many revolutions until the Romans invaded the peninsula and reduced it to a province, under the name of Achaia. It followed the destinies of the Roman empire until the time when Constantine restored its political influence by transferring the seat of empire to Byzantium. It then became the chief part of the Eastern Empire; and when the Western had disappeared, it alone retained the still formidable name of Roman, with which it decked its baseness and decay.

In the invasions of the barbarians, the Goths marched through it; the Huns harassed it about the Danube; the Bulgarians settled down on the northern slope of the Hæmus and as far as Epirus; the Slavons occupied almost all its provinces, and

founded the kingdoms of Servia and Bosnia; but its greatest danger was destined to come from Asia. The frontier of the west, pushed forward to the Indus under Alexander, receded to the Euphrates under the Romans, was despoiled of Syria by the Arabs, and of Asia Minor by the Seljukian Turks; at the end of the eleventh century naught remained to the Greek empire save the peninsula, and Constantinople was menaced. Then the West came to its assistance, and the Crusades hurled back the Turks into Asia for two centuries; but they could not consolidate the decaying Byzantine empire, which was thereafter seen to be unable to close the gate of Europe against the barbarians. In 1204, the French and Venetians overthrew the Greek empire, and divided it between them; then there arose, in addition to the Latin empire of Constantinople, a kingdom of Thessalonica, principalities of Epirus and Achaia, duchies of Thebes and Athens, &c. Frightful anarchy deluged the peninsula with blood for two centuries; the Greek emperors recovered the throne of Constantinople, but the city was their only possession; the Venetians retained the islands and coasts of the Archipelago and Adriatic.

However, the Crusades terminated, and the barbarians of Asia resumed their invading march. The Ottoman Turks, the successors of the Seljukians, invited successively by the Greeks, the Slavons, and the Bulgarians, who waged fierce war among themselves, set foot on Europe in 1358, overran Thrace and Macedon, and besieged Constantinople in 1402, which was only saved by the invasion of the Mongols under Timour.* After the death of Gengis, they renewed their inroads on Greece, conquered in turn the Bulgarians, Slavons, and Greeks, and met with a last resistance from the indigenous population of Epirus, the Albanians, under the leadership of Scanderbeg; finally, on the 29th May, 1453, Constantinople was taken by Mahomet II. This was the commencement of the Ottoman empire, which in the course of a century increased to such an extent, that its boundaries were the Dnieper, the Carpathians, the Waag, the Raab, the Adriatic, the Mediterranean, the Atlas, the deserts of Libya and Nubia, the Arabian and Persian Gulfs, the Tigris, the Caucasus, and the Black Sea; the sultans of the race of Othman became the tem-

* See *History of the Geography of Asia.*

poral and spiritual chiefs of all the Mahometan peoples. Under these barbarian masters, who were never more than an army encamped in the midst of conquered nations, Greece lost all her repose, all her liberty, almost every fragment of her civilization, retaining only her religion and her language; but, as she refused to mix with her conquerors, she remained a nation, and retained the hope of recovering her independence. She first sought aid in Venice, which still had possessions in Greece; but after this republic had lost Crete in 1669, Morea in 1715, and only retained possession of the Ionian Islands, she turned her face towards Russia, which she had formerly converted to Christianity. The decline of the Turks was as rapid as their rise; the Russians, from their first appearance on the European scene, had proved their enemies, and had cast covetous eyes on the great city of Constantine. There now commenced between these two powers sanguinary wars, the result of which was to give to the Russians the dominion of the Black Sea, and to show to the Greeks their future liberators in their northern coreligionists.*

During the prolonged stormy period of the French Revolution, Turkey played but a secondary part, following now in the wake of Great Britain, now in that of France, and always conquered and despoiled by Russia; she had retained her barbarian ignorance with her savage institutions, whilst she had lost her religious and warlike fanaticism; her sultans were weak and effeminate; her pachas everywhere in rebellion; she was destitute of army, navy, and money. Then (1808) Mahmoud ascended the throne and essayed to give new life to his empire by means of a reform in the European sense; but in the midst of the not very successful efforts of this monarch, who was more adventurous than able, Greece, which had long been secretly instigated by Russia, rebelled (1820): she would have been exterminated had not the Christian powers, moved by the magic of her name and by the cross she wore on her forehead, arrested the blood-imbued hand of Turkey, and after the glorious but impolitic battle of Navarino, the southern part of the peninsula became an independent state (1827). This resurrection of Greece has almost proved a mortal blow for the Ottoman empire: weakened by the

* See *History of the Geography of Russia.*

independent position acquired by Servia, Walachia, Moldavia, and Egypt; undermined by the pretensions and the threatening attitude of her Christian populations; humiliated at one time by the protection, at another by the exactions of Russia, she seems to have but a factitious existence, prolonged solely, as the war of 1854 showed, by the efforts of France and Britain.

The Ottoman empire, including the European tributary states, but not the African tributary states, has a population of 32,000,000. The different races inhabiting the empire are thus subdivided:

Races.	In Europe.	In Asia.	Total.
Ottomans	1,600,000	10,200,000	11,800,000
Greeks	1,500,000	2,000,000	3,500,000
Slavons	7,300,000	—	7,300,000
Roumans	4,000,000	—	4,000,000
Albanians	1,600,000	—	1,600,000
Armenians	400,000	1,500,000	1,900,000
Arabs, Syrians	—	2,500,000	2,500,000
Total	16,400,000	16,200,000	32,600,000

According to religion the population is thus divided:

Religions.	In Europe.	In Asia.	Total.
Mahometans	4,300,000	11,500,000	15,800,000
Greek Christians	11,200,000	2,500,000	13,700,000
Armenians and Eutychians	400,000	1,500,000	1,900,000
Catholics	365,000	500,000	865,000
Jews, Yesides, &c.	75,000	200,000	275,000
Total	16,340,000	16,200,000	32,540,000

From these figures one great fact results which accounts for the incurable weakness of the empire: out of a population of 16,400,000 in Turkey in Europe, there are but 1,600,000 of Turkish race and 4,300,000 of the Mahometan religion; and opposed to these there are nearly 15,000,000 of inimical races, and about 12,000,000 professing the Christian religion.

The government of Turkey is a monarchy limited by the concessions recently made to their subjects by the sultans: the *vizir* is the political, the *mufti* the religious vicar of the sultan; the grand council of state is called the *divan*.

The kingdom of Greece is a constitutional monarchy.

§ III.—WESTERN WATERSHED.

The slope of the Dinaric Alps towards the Adriatic being very abrupt, they send down to the sea only unimportant torrents. The few roads crossing them were described in the basin of the Danube; there is only one parallel to their crest, extending from Fiume to Cattaro and passing through all the coast towns. The coast is very much indented with gulfs, and fringed by many islands, which form a kind of belt to it. These islands, which are of little historical celebrity, are infertile, wooded, scantily peopled, and have but unimportant harbours defended by old castles; the chief of them are: *Veglia, Cherso, Pago, Brazza, Lesina, Lissa, Curzola,* and *Meleda;* the most important are *Lesina,* which has a good harbour defended by batteries and two forts; and *Lissa,* with a fine military port defended by strong fortifications; naval battles of 1811, in which the English defeated the French, and 1866, in which the Austrians beat the Italians.

On the coast we find: 1. FIUME, a good port defended by two forts at the head of the gulf of Quarnero.—2. SEGNA or ZENG, a fortified town with a bad harbour.—3. CARLOPAGO, a safe and deep harbour.—4. ZARA, a fortified town and good harbour, defended by a citadel which contains an arsenal; the capital of Dalmatia, taken by the French and Venetians in 1204.—5. SEBENICO, a town defended by a bad enceinte and a fort at the head of the gulf of Kerka.—6. SPALATRO, a town surrounded by an old enceinte, with a good harbour, near the ruins of ancient SALONE, the birthplace of Diocletian.—These towns belong to Austria.

On the north of Spalatro, the mountains retreat from the coast and give rise to remarkable rivers.—On the east of the *Cettina,* and in a part of the mountains where the waters have no outlet, lies LIVNO, a fortified town with three castles, which guards the entrance to Bosnia.—On the *Narenta,* a large river running into the Adriatic, is MOSTAR, a fortified town, the capital of the Herzegovina.—On the *Trebinstizza,* a river without an outlet, which flows through an interior plateau of the Dinaric Alps, is TREBEGNO, defended by a fort. All this district belongs to the Ottoman empire.

We find besides on the coast: 1. RAGUSA, formerly an independent republic, taken by the French in 1806, and where they were fruitlessly besieged by the Russians; it is defended by a double bastioned enceinte and four forts.—2. CATTARO, a fortified town, with a good harbour at the head of a gulf 7 miles in circumference, closed by sunken reefs which only leave three passages, celebrated under the name of *Mouths of Cattaro* (Bocca di Cattaro). These passages are defended by the three forts of CASTEL-NUOVO; near this is the frontier of the Austrian states.

Between the Austrian and Turkish states lies *Montenegro*, a small mountainous country, inhabited by a wild people of Slavonic race, warlike, christian, nominally dependent on the Ottoman empire, whose armies they have often beaten; it can raise from 15,000 to 20,000 men, and its chief town is CETTIGNE, a little town where the prince resides.—The first Turkish ports are ANTIVARI and DULCIGNO, defended by old castles.

North of Ragusa and Cattaro the Dinaric Alps recede very far from the coast, which however retains its precipitous character, and is indented with broad and deep bays. The principal of these are: the gulfs of *Drino* and *Avlona;* the gulf of *Arta* (Ambracius), important on account of its fine harbours and the forests that clothe its banks; Gulf of *Patras*, which leads into the Gulf of *Lepanto* (Gulf of Corinth), an interior sea of great importance, lying between Greece, the Morea, and the Isthmus of Corinth. The streams now become remarkable:

1. The *Boyana* rises in the Bosnian Alps under the name of the *Moracca*, runs from north to south, from Lake *Scutari*, below which is the town of SCUTARI (Scodra), defended by the famous castle of *Rosapha*, which is regarded as one of the bulwarks of the Ottoman empire: population, 25,000.

2. The *Drin* is formed of two streams: one rises in the Dinaric Alps under the name of *White Drin*, runs from north to south and washes PRISREND (Justiniana prima), a town defended by a citadel famed in the middle ages; the other rises in the Hellenic Alps under the name of *Black Drin*, runs from south to north, passing through Lake *Okhrida*, on whose banks lies the town of OKHRIDA, defended by a strong castle, built on the ruins of Lychnidus, and the residence of the Bulgarian kings in the eighth century. These two rivers are hemmed in by a triangle of

mountains inhabited by wild and warlike tribes; the Drin, after passing the base of this triangle, ends below ALESSIO, defended by a bad castle.

3. The *Mati* (Mathis), an inconsiderable torrent which runs through the mountainous country inhabited by the *Mirdites*, an independent Catholic people, apparently descended from the companions of Scanderbeg; their chief town is CROIA, defended by an old fort.—All this district is very favourable to guerilla warfare; wild, unfertile, mountainous, without roads or cities, it has been little visited and is but little known. On the coast lies DURAZZO (Dyrrachium), a good port, celebrated in ancient times.

4. The *Scombi* (Pompasus) passes near ELBASSAN, defended by an old castle. The valley of the Scombi is the best point for invading Albania, which it divides into two portions; by it both Berat and Durazzo may be attacked.

5. The *Ergent* rises in Mount Grammos and washes BERAT, a town surrounded by walls and defended by a citadel.

6. The *Vojoutza* (Aoüs) rises in Mount Pindus, runs from S.E. to N.W., washes PREMETHI and KLEISSOURA, defended by mediæval castles; TEBELEN, the birthplace of Ali Pacha, and ends in the Ionian sea. One of its tributaries washes ARGYRO KASTRO, a town of great strength from its position, defended by an old castle.—A mountain range of some size, called *Chimera* hills (montes Ceraunii), forms the southern belt of its basin; it terminates in the *Acroceraunian* hills, so famous in ancient times for the stormy sea they overlook; they are still peopled by brigands and pirates. On the eastern flank of the Chimera hills lies AVLONA, an unhealthy town, with a fine harbour defended by a fort, and on their western flank DELVINO, a fortified town, and BUTRINTO, an old Venetian fortress, taken by the French in 1797, and by the Russians in 1799.

7. The *Kalamas* (Thyamis) flows through a fertile country inhabited by the warlike tribes of the Philates, and runs into the sea of Corfu.

On the east of the hills where the Kalamas rises, and on the west of those where the Arta rises, is a small interior plateau, which belonged to ancient Hellopia: its centre is occupied by the Lake of *Janina* (Acherusia), whose waters escape through

subterranean channels and go to unite with the Kalamas; on its west bank lies JANINA, formerly a commercial and civilized town, defended by a bastioned enceinte and several castles; it was the centre of Ali Pacha's rule, and was half ruined by the siege of 1822, when the despot was assassinated; pop., 30,000.

The *Mavropotamos* (Acheron) flows through frightful ravines, inhabited by the Souliote tribes, who defended their independence against Ali with so much heroism from 1788 to 1803; it ends near the fort of FANARI.—On the coast is PARGA, a fortified town with good harbour; it used to be a small republic under the protection of Venice; besieged in 1814 by Ali Pacha, it put itself under the protection of the British, who delivered it over to the tyrant of Albania; but all the inhabitants fled from the town, which now belongs to the Ottoman empire.

9. The *Arta* (Arethon) rises in the Pindus not far from MEZZOVO, a town of great importance from its position between Albania, Macedon, Thessaly, and Acarnania: it is the usual route taken in invading any of these countries. It flows from north to south, passes by ARTA (Ambracia), a town important on account of its citadel and its trade (battle of 1822, won by the Greeks over the Turks), and ends in the gulf of the same name. —At the northern entrance of this gulf is PREVESA, a small port defended by three forts, which belonged to the Venetians until 1798; taken by the French in 1798, and by Ali Pacha in 1799; near it are the ruins of *Nicopolis*, where, in 1798, 400 French fought against 11,000 Turks; at the southern entrance of the gulf stood ACTIUM, where was fought the naval battle between Octavius and Antony.

All these streams are torrents, dry during part of the year, none of them are navigable; their basins form Albania (Epirus), a wild and warlike country, which having striven against the Ottoman empire for two centuries, ended in supplying it with its best soldiers; the Albanians, called *Arnaouts* by the Turks and *Skipitars* by the Greeks, vigorous, sober, and ferocious mercenaries, have retained all the characters of the soldiers of Pyrrhus and Scanderbeg, whose descendants they are. The citadel of Albania is the country of the Mirdites, a triangular district of inaccessible and wooded mountains, open only through the valley of the Mati: the Turks have never been able to establish themselves there.

10. The *Aspropotamo* (Acheloüs) rises in the Pindus, flows from north to south through a mountainous country, it passes no remarkable place and ends in the Sea of Cephalonia.

The north coast of the gulfs of Patras and Lepanto bristles with mountains and is indented by bays; on it lie: 1, ANATOLICO, a small fortified town, built in the lagoons, with an immense but shallow roadstead;—2, MISSOLONGHI, a fortified town with a good harbour, destroyed by the Turks in 1826, after a memorable siege sustained by the Greeks, who had made it the centre of their independence;—3, LEPANTO (Naupactus), a port defended by a strong castle; naval battle of 1571, won by the Christians over the Turks.—The entrance to the gulf is protected on the north by the castle of RUMILI (Antirhium promont.), and on the south by the castle of MOREA (Rhium promont.).—At the head of the Gulf of Salona, we find: SALONA (Amphissa), lying at the foot of Mount Parnassus; then GALAXIDI, an important commercial town, destroyed in 1821; the ruins of *Cyrrha*, which was the port and arsenal of Delphi; the village of *Castri* is on the site of the temple; lastly, on the east side of the bay the site of ANTICYRA, celebrated for its hellebore as a remedy for madness.

Political Divisions.—1. *Austrian Croatia* and *Dalmatia* with the towns of Ragusa and Cattaro, important possessions, by which Austria rules the Adriatic and threatens the Ottoman empire.—2. *Herzegovina*, part of Bosnia, a dependency of the Ottoman empire.—3. *Albania*, province of the Ottoman empire.—4. N.W. part of the kingdom of Greece.

§ IV.—EASTERN WATERSHED.

The Strait of Constantinople or the Thracian Bosphorus, is a river unequalled in the world for the importance of its position, the depth of its channel, and the beauty of its banks. It connects the N.E. of Europe with the Mediterranean, and separates Europe from Asia; it is defended by fortifications of no very formidable character, the two forts of *Tott*, the two *Kavaks*, the two castles of *Europe* and *Asia*, &c.

At the southern extremity of the strait lies CONSTANTINOPLE (Stamboul), capital of the Ottoman empire, built by Constantine on the site of the ancient Byzantium, the finest position in Europe; pop., 715,000. It is one of the largest cities in the

world: its form is that of a triangle, the apex of which touches the sea; its harbour, which is the safest and finest in Europe, is formed by an arm of the strait, beyond which are: the arsenal, the manufactory of small arms, the shipbuilding yards, and the suburbs of Pera and Galata. Constantinople, surrounded by a double wall with ruined towers and ditches, offers at present but poor means of defence, even towards the sea, the Thracian Bosphorus and the strait of Dardanelles being badly fortified and capable of being passed by steam-ships. It has been besieged twenty-four times. Taken by the French and Venetians in 1204, and by the Turks in 1453.

The coasts of the Sea of Marmora present nothing remarkable except their picturesque beauties: on the strait of Dardanelles or Hellespont we find GALLIPOLI, a good port, the first point in Europe occupied by the Turks; the strait is 42 miles in length, five miles in its greatest breadth, less than a mile in its narrowest part. Its exterior defences consist of the castles of SERTIL BAHR, KALESSI, and POLEOCASTRO in Europe, and KOUM KALESSI in Asia: these are the *New Dardanelles*, they are entirely closed, casemated, and armed with 196 guns and mortars. The central defences consist of the castles of KILIS BAHR in Europe, and SULTANIEH HISSAR in Asia, with batteries: these are the *Old Dardanelles*, irregular works, but armed with 315 guns, whose fires cross one another in a series of curved and straight outlines extending 8 miles in length by 5,000 ft. in breadth. Lastly, the interior defences consist of the works of BOHALIEH in Europe, armed with 122 pieces of ordnance, and of NAGARA in Asia, mounting 37 guns, at the water's level, and covering a distance of 6,560 ft. The castle of Nagara is the only work defensible on the land side; the others, near which troops may be easily landed, could not resist simultaneous attack by land and sea. The passage of the strait was forced by a British fleet in 1807.

The coasts of the Archipelago are very precipitous and are indented by innumerable bays, among which we notice: those of *Saros* (Melas sinus), *Enos* (Stentoris lacus), *Lagos*, *Contessa* (Strymonicus sinus), *Monte Santo* (Singiticus sinus), *Cassandria* (Toronaicus s.), *Saloniki* (Thermaicus s.), *Volo* (Pelasgicus s.), *Zeitouni* (Maliacus s.), the channels of *Talanta* and *Negropont*

(strait of Euripus), lastly, the gulf of *Athens* (Saronicus), between Greece, Morea, and the isthmus of Corinth. The rivers are of considerable size, especially those in the north, which, as they rise in the Balkan, have time to attain a great volume.

1. The *Maritza* (Hebrus), the most important of all, rises in the Balkan, washes KOSTANICZ, where the two passes of Soulu-Derbend and Kis-Derbend, coming from Sophia and Ghiustendil issue. It then flows to the east through a very high plain, rich in wine and corn, washes PHILIPPOPOLI, and passes near ADRIANOPLE (Adrianopolis), the second city of the Ottoman empire, with a citadel, an arsenal, and a cannon foundry, taken by the Turks in 1366, and by the Russians in 1829; population 140,000. There it receives the *Toundja*, which bathes KAISANLIK, and in its basin lies the important town of SELIMNO, situated near the defile of Demir-Kapou, taken by the Russians in 1829; it then turns south, washes DEMOTICA, a town defended by a castle, celebrated for the sojourn of Charles XII., and ends in the Gulf of Enos, below the small port of that name.

Between the Maritza and the Strouma, there runs a remarkable chain, the *Despoto-Dagh* (Rhodope), which is given off from the Balkan between Sophia and Ghiustendil; it forms an almost impenetrable wall betwixt Thrace and Macedon, without longitudinal valleys, its crests are covered with old fortresses; the Ottomans have prevented the Christian populations from establishing themselves there.

2. The *Strouma*, or *Karasu* (Strymon) rises in the central Balkan, washes GHIUSTENDIL, a fortified town protecting the road from Servia into Macedon; it receives a tributary that passes near SERES, a commercial town of 20,000 inhabitants, it then forms Lake Takinos, receives a tributary that runs by DRAMA, built on the ruins of Philippi, and ends in the gulf of Contessa.

Between the Strouma and the Vardar, a large spur detached from the Balkan forms the peninsula of *Chalcidice*, a very fertile district between the gulfs of Contessa and Saloniki, which splits into three small peninsulas; the most northern of these ends in Mount *Athos*, now called *Monte-Santo* (6,954 feet) covered with monasteries constructed like fortresses.

At the top of the gulf of *Saloniki* lies the town of SALONIKI, ancient Thessalonica, the second commercial city of the

Ottoman empire, protected by a strong enceinte and a strong castle; population, 70,000.

3. The *Vardar* (Axius), rises in the Tchar-Dagh, passes near KATSCHANIK, an ancient fortress which defends the road from Pristina to Uskibu; washes USKIBU (Scopi), one of the keys of Macedon in the time of the Lower Empire, defended by an old castle; it runs through mountains which cause a succession of rapids; receives the *Tzerna-Ricka* (Erygon), in whose basin lies BITOLIA, or MONASTIR, a town of considerable size, a central position from which Albania may be attacked; it runs through a fertile and populous basin, and ends in the gulf of Saloniki.

4. The *Vistritza* (Eordæus) washes VODENA (Edessa), passes near IENIDJE (Pella), traverses the lake of that name and ends in the Gulf of Saloniki.

5. The *Ienidje-Karasu* (Haliacmon) passes near KASTORIA, a town situated on the lake of the same name, and KARAVERIA (Berœa).

6. The *Selembria* (Peneus) rises in the Pindus, flows through and waters the magnificent valley of Thessaly; it waters the canton of Agrafa, where there are formidable defiles leading into Albania, runs by TRICALA, a town defended by a bad fort, of great importance on account of its position, which commands the entrance to Thessaly. It receives on the right the *Sataldja* (Enipeus), a stream that flows by PHARSALA, famed for the victory of Cæsar over Pompey; washes LARISSA (Pella), a large and wealthy town, centre of the roads of the basin; it pierces a very narrow passage between two chains of mountains, Olympus (Lacha) on the north, Ossa (Kissovo) on the south; forms in this defile the lovely valley of Tempe and ends in the gulf of Saloniki.—This most remarkable basin is circular and hemmed in on all sides by mountains; on the west is Pindus, on the north Olympus, on the south Ossa, both offshoots from Pindus, on the east Pelion (Zagora), which is connected with Ossa, and runs along the coast until it meets the Peneus.

On the coast lies the small port of PLATAMONA, defended by a fort, and at the top of the gulf of *Volo*, the town of VOLO, the ancient Demetrias, a naval station, which, with Chalcis and Corinth, commanded Greece; it is now a busy port, with a good citadel.

7. The *Hellada* (Sperchius) ends in the gulf of *Zeitouni*, which derives its name from a small fortified town in front of *Thermopylæ*.—Mount Œta (Koumaita), an immense spur detached from the great chain, and which runs between the Sperchius and Cephissus, forms by its last cliffs, near the sea, the defile of Thermopylæ, famous for the devotion of Leonidas, but which can no longer serve to protect Greece against invasion from the north, for it is always possible to turn it. It is closed on the south by the small fortified town of BODONITZA.

Between the sea of Negropont and the gulfs of Lepanto and Athens, the peninsula contracts and forms a very precipitous plateau, in the middle of which is Lake *Copaïs*, which receives the *Cephissus* and other brooks; this lake communicates with the sea by means of subterranean canals artificially excavated. The whole district is a scene of confusion, abounding in fissures and caves, subject to inundations which change fertile lands into marshes. This was *Bœotia*. The principal towns are: LIVADIA (Lebadea), formerly the capital of one of the great provinces of the Ottoman empire, partially ruined during the Greek war, at present defended by a castle, and THEBES, a small town on the site of the birthplace of Epaminondas.—The narrowest part of the peninsula, which ends in Cape Colonna, formed *Attica*, where ATHENS lies, the capital of the kingdom of Greece, with a citadel constructed on the remains of the Acropolis, and a good port, formerly called the Piræus, now PORTO LEONE; this metropolis of ancient civilization which has been so often ravaged, still retains in its ruins the traces of its ancient splendour; it was almost entirely destroyed during the last war; population 41,000.

Political Divisions.—The portion of this watershed on the north of the southern limit of the basin of the Peneus belongs to the Ottoman empire; that on the south of this limit belongs to the kingdom of Greece.

§ V.—MOREA.

The isthmus of Corinth, which connects the northern and southern parts of the Hellenic peninsula, is 35 miles long by 5 broad; it is a large and thick wall, the entrance to which is defended on the north by MEGARA, a town of which only the

ruins remain; on the south by CORINTH, a town lying in a magnificent position, which was entirely destroyed in the late war; nothing remains of it but its citadel, the bulwark of the Morea, whose triple range of fortifications dates from the earliest times.

The Morea, or *Peloponnesus*, consists of five peninsulas, divided by five gulfs, in the centre of which is a small plateau. —The N.E. part, or *Argolis*, between the gulfs of Athens and Nauplia contains: 1, PITHAVRA, a wretched village on the ruins of Epidaurus;—2, DAMALA (Trœzen), a small town, memorable for the congress of 1827;—3, NAUPLIA, a commercial town defended by two citadels, one of which, built on the rock of Palamedes, is regarded as the Gibraltar of the Archipelago; it lies at the head of the gulf of Nauplia and has a very good harbour;—4, ARGOS, a small town defended by an old castle, on the ruins of the ancient city of Danaüs;—5, KARVATHI, a village on the ruins of Mycenæ.—The two peninsulas of the S.E. or *Laconia* between the gulfs of Nauplia and Koron, contain the small basin of the *Iri* (Eurotas), which ends in the gulf of Kalokythia. There MISITRA lies, on the slope of Mont Taygetas and near the ruins of Sparta; in the middle ages, it was the capital of the despots of Morea, and the most populous town in the peninsula; it is now ruinous, with nothing but a citadel, which was unsuccessfully besieged by the Turks in the last war. There we also see MONEMBASIA, a small town on an islet, defended by a castle, and remarkable for its harbour.—The S.W. part or *Messenia*, between the gulfs of Koron and Arcadia, contains:—1, KALAMATA, at the mouth of the Pamisus, destroyed in 1825;—2, KORON, a fortified town with an indifferent harbour;—3, MODON, a fortified town with a good harbour, which suffered much during the war of independence; occupied by the French in 1828;—4, NAVARINO (Pylos), facing the island of Sphacteria, a fortified town, with one of the best harbours in the Mediterranean; naval battle of 1827, when the Turkish fleet was destroyed by the combined fleets of France, Great Britain, and Russia;—5, ARCADIA (Cyparissus), a small port.—The N.W. part, or *Elis* and *Achaia*, between the gulfs of Arcadia, Patras, and Lepanto, contains the *Roufia* (Alpheus), which washes KARITENA, a small town with a strong castle built by the French in the middle ages, the cradle

of the insurrection of the Morea, thrice taken and devastated by Ibrahim-Pacha; SINANO, a village on the site of the ruins of Megalopolis; MIRACA, on the site of Olympia; it ends near PYRGOS, a small town destroyed during the war. We also find here PATRAS (Patræ), a well-fortified town with middling harbour, one of the bulwarks of Morea, occupied by the French in 1828.—Lastly, the central plateau, or *Arcadia*, contains LEONDARI (Leuctres), a town ruined in the war; TRIPOLITZA, the ancient capital of the Morea, now half ruined and badly fortified, near the ruins of Tegea and Mantinea.

The Morea belongs to the kingdom of Greece.

§ VI.—ISLANDS.

1. CORFU (Corcyra) is a large, rich, and fertile island, in an admirable position, commanding the entrance to the Adriatic and threatening Italy. The town is very strongly fortified, contains an arsenal and a citadel, and possesses one of the finest harbours in the Mediterranean. Before its cession to Greece it was one of the stations of the British fleet. Taken by the French in 1797.

2. SANTA MAURA (Leucadia), THIAKI (Ithaca), CEPHALONIA (Cephallenia), ZANTE (Zacynthus), are remarkable for their products, their ports, and their trade. Santa Maura and Zante are fortified.

3. CERIGO (Cythera), on the south of the Morea, is unfertile and scantily peopled.

All these islands, whose population is Greek and Christian, belonged to the Venetians from 1204 to 1797, when they were seized by the French, who kept them till 1814. They then were formed into a federal republic, under the protection, or rather rule, of Britain. They were ceded to Greece in 1863.

4. CRETE or CANDIA is a large island, 87 miles long by 37 wide, which is traversed from west to east by a chain of mountains, whose highest peak, Mont *Psiloritès* (Ida) is 62 miles in circumference, and 7,674 feet high. It is fertile, especially in olives, and very important from its situation, its ports, and its population, which amounts to 200,000. On its coasts we find CANEA (Cydonia), a commercial town, defended by dilapidated fortifications, with a good harbour and dockyards;—SUDA, an islet of

importance, on account of its fortifications and its harbour, the best in the island;—CARABUSA, an islet of importance, on account of its fortifications and harbour;—CANDIA or MEGALO KASTRON, a town very much fallen off, with a harbour filled up with sand;—SPINALONGA, a fortress and harbour. This island has belonged to the Turks since 1669, when they wrested it from the Venetians, in spite of the assistance rendered by the French.

5. CYCLADES, a group of 25 fertile, hilly islands, with about 140,000 inhabitants; the principal are: 1, NAXIA (Naxos), the largest among them, with a fortified town;—2, PARO (Paros), famous for its marble;—3, MILO (Melos), with one of the best harbours in the Archipelago;—4, SYRA (Syros), one of the greatest trading places in the Archipelago: this island attained to great prosperity during the war, in consequence of its neutrality, and the Syriots now possess upwards of 1,000 ships;—5, TINOS, an island inhabited by an industrious population, and defended by the town of SAN NICOLO;—6, ANDROS, inhabited by a seafaring people, who possess 100 vessels.

6. HYDRA and SPEZZIA, small islands near Argolis. These barren rocks became great trading places from 1792 to 1815, and their inhabitants were the boldest sailors of the Archipelago; they were the bulwark of the Greek insurrection, and their small vessels, more than 500 in number, frequently destroyed the Turkish fleets; they were almost completely ruined after the war, but now they are beginning to recover their prosperity.

7. POROS (Spharia), EGINA and COULOURI (Salamis), in the Gulf of Athens. The first, near the coast of Morea, has a superb harbour with double entrance, which is the chief naval establishment of Greece: it contains an arsenal and dockyards. The second was, in the last wars, as in the time of the Persians, the refuge of the continental Greeks. The third is celebrated for the victory of the Greeks over the Persians, 480 B.C.

8. NEGROPONT (Eubœa), a long island lying parallel to the coast of Livadia, from which it is only separated by a narrow channel, over which a large bridge, 213 ft. long, has been thrown, at the end of which lies NEGROPONT (Chalcis), a very strongly fortified town, one of the maritime keys of Greece, with a good harbour. At the south end lies Karystos, defended by a strong castle.

9. The northern SPORADES, a group of islands on the north of Negropont, among which we notice SKYRO (Scyros), from time immemorial the abode of pirates.

All these islands belong to the kingdom of Greece.

10. STALIMENE (Lemnos), IMBRO, THASO, SAMOTHRAKI, are beautiful and fertile; they belong to the Ottoman Empire, and enjoy some privileges. Stalimene is fortified.

§ VII.—STATISTICS.

SUPERFICIAL MEASUREMENT IN SQUARE MILES.	POPULATION.	ARMY.	NAVY.	REVENUE.	DEBT.
		Turkey in Europe.		£	£
187,266	15,780,000*	Regular 140,000 Irregular 82,000 Vassals 100,000	48 ships.	14,500,000	49,500,000
		Kingdom of Greece.			
19,827	1,330,000	11,900 men.	35 ships.	1,024,000	11,000,000

CHAPTER VII.

RUSSIAN REGION.

§ I.—GENERAL IDEAS.

THE two immense watersheds formed by the great European water-parting from the Carpathians to the Poyas hills, may be regarded as forming a vast plain, bounded on the south by the Carpathians, the Black Sea, and the Caucasus; on the east, by the Poyas and Ourals; on the west, by the Baltic Sea; on the south by the Artic Ocean; this is *Russia*. Along with the Scandinavian Peninsula it constitutes all northern Europe. Its waters are discharged into the Black, Baltic, White, and Caspian seas. It lies between N. lat. 42° 25′ and 70° 15′, and E. long.

* Including the tributary states, viz.: Servia, Wallachia, and Moldavia, which together amount to 59,161 square miles, and contain upwards of 5,000,000 inhabitants. The possessions of Turkey in Asia and Africa amount to 463,340 square miles, and 21,000,000 inhabitants.

19° and 66° 5′.—Length of the diagonal drawn from Akermann to Cape Waigatz, 2,000 miles; length of the diagonal drawn from Bromberg on the Vistula to Orskaia on the Oural, 1,500 miles; length of the diagonal drawn from Cape Apcheron in the Caspian to North Cape in the Arctic Ocean, 2,110 miles.

This region, larger than the seven others together, permeated by the largest rivers of the East, studded over with innumerable lakes and marshes, presents almost everywhere a monotonous succession of plains covered with slime, forests, and ice, exposed to all the glacial influences of Asia, varying in appearance, climate, productions, and inhabitants; unfertile, desert, wild, and cold in the north; tolerably rich, more thickly peopled, civilized, and temperate in the south. Resting on three inland seas, the Black Sea, the Baltic, and the Caspian, hemmed in by the Arctic Ocean, communicating with the rest of Europe by the west, north, and south, and with Asia by the east, Russia differs from southern Europe not only by the nature of its soil and the severity of its climate, but still more by its semi-barbarous inhabitants, by the system of serfage prevailing till quite recently, by which three-fourths of the population have been brutalized; lastly, because, alone among all the European regions, its form of government is an absolute monarchy.

The framework of this country of plains is very difficult to distinguish; the following may be considered an approximate sketch of it. From Mont Sloiczik, where we left the great general European water-parting near the sources of the San and Dniester, there runs northwards a tortuous line of heights, which grow lower as we advance, become confused, and ultimately so completely lost in the plains, that in the rainy season the waters of both watersheds unite, and the streams, without any enclosing belt of hills, but not without banks, flow on almost dead levels into the Baltic and Black seas. This backbone of country separates the basins of the Vistula, Niemen, and Düna on one side from those of the Dniester and Dnieper on the other.

At the sources of the Düna and Dnieper the land rises in the direction of a plateau whose protuberances without steepness scarcely deserve the name of knolls, and whose highest point is only 820 feet; this is the plateau of *Valdai*, a long level tract,

slightly sloping and covered with forests, whence streams descend in every direction: the Düna to the Baltic, the Dnicper to the Black Sea, the Volkow to Lake Ladoga, the Volga to the Caspian Sea.

After this the water-parting proceeds N.E. without becoming higher and more distinct, separating the Volga from lakes Ladoga and Onega. At the latitude of this latter lake it runs from west to east by small tortuous hills of chalky character, interspersed with blocks of granite, separating the waters of the White Sea from those of the Volga, and turns again towards the N.E., in the plateaus of *Chemokonski*, from 690 to 990 feet in height. Those plateaus are only a kind of preliminary terrace to the great Asiatic chain. The water-parting reaches this chain at the point of junction of the Poyas and Ourals, in a very remarkable nucleus of mountains, whence streams run in every direction: on the N.W., the Petchora to the Artic Ocean; on the N.E., a tributary of the Oby to the Arctic Ocean; on the S.E., a tributary of the Tobol to the same sea; on the south, a tributary of the Volga to the Caspian Sea; on the west, a tributary of the Dwina to the White Sea.

Thence the water-parting follows from south to north the chain of the *Poyas*, which separates Europe from Asia, and which on the west only presents terraces and plateaus without any high peaks; it ends with this chain at Cape Waigatz.

This long series of low hills throws off only one remarkable appendix, which runs N.W., at the latitude of Lake Ladoga, and under the name of *Olonetz* hills, separates this latter lake from Lake Onega. It is a granitic plateau with rocks projecting to the height of from 330 to 650 feet; studded with lakes and sandy plains, it separates the waters of the White Sea from those of the Baltic, gradually rises in height, until it attains an elevation of 1,312 feet between the gulfs of Kandalaskaia and Bothnia, and where it joins the chain of the Dovrefield is 2,624 feet in height.

After these general observations, we shall divide Russia as follows: 1, watershed of the Black Sea; 2, isthmus of the Caucasus; 3, watershed of the Caspian Sea; 4, watershed of the Baltic Sea; 5, peninsula of Finland; 6, watershed of the Arctic Ocean.

§ II.—HISTORY OF THE GEOGRAPHY OF RUSSIA.

The Slavons, a wild and little known people, inhabited the plains of Sarmatia, on the north of the Vistula and the Borysthenes; in the forests and marshy lands of the N.W. of Europe, between the Baltic Sea and Arctic Ocean, were the Finns, a poor and peaceful people, who have never at any time played any conspicuous part. The Slavonic tribes were overrun by the Goths coming from Scandinavia, by the Huns coming from Asia, and were carried along by these conquerors in their invasions; those who inhabited the upper basins of the Don and Volga, and who were called Russians, subjugated the Finns, and are said to have founded Kiev, Novgorod, and Moscow. In the ninth century, bands of Norman pirates invaded Sarmatia, mingled with the Slavons, subjugated all the regions lying between the Baltic and Black seas, frightened Constantinople, and founded the Grand Duchy of Russia, whose capital was Kiev, and whose first monarch was Rurik, the Norman. It was about this period that Christianity was introduced into these barbarous countries by the Eastern emperors; and at the same time commenced the relations of the Russians with the Greeks, which have been kept up, through all revolutions, until the present day.

In the following centuries the history of Russia is involved in obscurity. The empire, whose southern boundaries were formed by the Niemen and Dniester, split into several states: the principal were the Grand Duchies of Vladimir and Kiev, and they had to struggle against the Lithuanians, a people dwelling on the Niemen and Vistula, who, in the twelfth century, spread as far as the Düna and Novgorod. In 1237, Batu, grandson of Ghengis Khan, overran all the Russian countries and placed them under the rule of the great horde of the Kapchak; the Duchy of Vladimir fell into the most humiliating subjection, whilst that of Kiev became a prey to the Lithuanians, the Baltic regions were subjugated by the Teutonic knights, and Finland was subdued by the Swedes.

In the fourteenth century, the Grand Duchy of Lithuania extended from the Niemen to Lake Ladoga, and from the sources of the Volga to the mouth of the Dnieper, bounded in the other

direction by the Dniester and Vistula; but it was soon weakened by intestine strife and the attacks of the Poles; and when the latter accepted Jagellon, Grand Duke of Lithuania, for their king, it became united to Poland, whereby this latter state attained a preponderating influence in the North.

In the meantime the grand duchy of Vladimir, always subject to the Mongols, was reduced to that tract of country which is still the nucleus of the Russian nationality, and the centre of the empire, that is to say to the district comprised between Vologda, Tver, Voronez, and Makariev; then Ivan III. ascended the throne. He shook off the yoke of the Mongols, destroyed the horde of the Kapchak, on the remains of which there rose up the small hordes of Kasan, Astrakan, Crimea, and Siberia, annexed the states of Tver and Pleskov, subdued the republic of Novgorod, and rendered tributary the Samoiedes (1462-1505). In 1584, Ivan IV. completed the ruin of the Mongols, subjected the kingdoms of Kasan and Astrakan, and commenced the annexation of Siberia, which was subdued by a Cossack adventurer. This prodigious extension of the Russian nation was checked in the following century by intestine broils; the Swedes took advantage of them to make themselves masters of Ingria, and the Poles of Smolensk, Novgorod, &c.; but the house of Romanof recovered all these possessions, and in addition wrested Kiev and Ukraine from the Lithuanians.

In 1689, Peter I. ascended the throne, and from him Russia dates its European existence; he introduced civilization by force into his states, established a regular administration and legislation, created an army and a fleet, founded St. Petersburg, in order to make his subjects enter into contact with Europe by the Baltic, conquered Ingria, Livonia, Esthonia, and took the title of Emperor; from that time the dominion of Russia over the north of Europe was assured. Under his successors the influence of the new empire was extended into the south of Europe; in 1739, a Russian army appeared on the Rhine; another appeared on the borders of the Black Sea. Under Catherine II. the sole bulwark of the south against Russia was overthrown: in 1772, 1793, and 1795, Poland was divided amongst Russia, Prussia, and Austria; the first had for its share Lithuania, Courland, Volhynia, Podolia, &c. Then as the power

of the Czars could get no further extension on the N.W., where is its intimate ally, Prussia, by means of which it influences the destinies of Western Europe; it advances on the S.E., where Austria, a semi-Slavonic power, beholds her with terror dismembering the Ottoman empire: in 1774, Russia wrested from the Turks Azof and the navigation of the Black sea; in 1784, the Crimea and Georgia; in 1792, Oczakof and the Dniester. Napoleon's terrible invasion only served to aggrandize the colossus, and to teach Europe that it is invulnerable; Alexander I. took Bessarabia from the Turks, Finland from the Swedes, the western coast of the Caspian from the Persians, and lastly the Grand Duchy of Warsaw, which is called the Kingdom of Poland. Under Nicholas I., Russia was still further stengthened by the conquest of Persian Armenia, by the creation of the kingdom of Greece, by the independence of Wallachia and Moldavia, by the destruction of the kingdom of Poland, and by the protection with which it humiliates the Ottoman empire. None but Russian ships were seen on the Black Sea; but this sea is merely a lake without the river that flows by Constantinople; "Russia must have the Dardanelles," said Alexander I.; "they are the key of our house." Nicholas tried to obtain them: it is well known how he was prevented by the war of 1854, by which Russia lost the dominion of the Black Sea, and has been compelled to defer her ambitious designs upon the Ottoman empire.

Russia is the largest empire in the world: she embraces the ninth part of the terrestrial surface, and the twenty-eighth of the whole globe; the fourth part of the population of Europe and the fifteenth of the human race. Her frontier line extends from west to east, from the mouth of the Niemen to Kamtchatka, and touches the states of Sweden, Prussia, Austria, and Turkey in Europe, the empires of Turkey, Persia, and China in Asia. With her back resting on the Arctic ocean, her arms extending into the Baltic and Black Seas, whose straits she strives to pass in order to lay her grip on Europe at both its flanks, she presses with all her weight on Europe by her line of contact with Germany, whose only protection against her is her second-rate rivers and her useless Carpathians. She herself has nothing to fear from any of her neighbours; the countries next to her in Asia have

either fallen into decay, or are barbarous and utterly unable to resist a power that can dispose of 600,000 automata, armed with all the resources of modern civilization; in Europe, the Ottoman empire, which is tumbling to pieces, has become her protégé, whilst Prussia and even Austria, her accomplices in the partition of Poland, have since that period been her allies. Moreover, a memorable example showed that Russia cannot be conquered, for the empire is so large that it has no flanks, and so deep that it has practically no end; it can only be attacked by its southern part, and then it retires behind its inaccessible ice, where it can still find iron and soldiers.

The races of mankind inhabiting Russia are:—1, the Slavons, numbering 50 millions, divided into Great Russians, Little Russians, Poles, Lithuanians, and Cossacks; the Great Russians are the ruling race; out of the fifty-one governments of the empire, they almost fill the nineteen central provinces.—2. The Finns, numbering 3½ millions, divided into Finns, Laps, Permians, &c.—3. The Tartars, numbering 2 millions.—4. The Caucasians, numbering 2 millions.—5. The Jews, numbering 1½ million.—6. Various other races numbering 1 million.

The Greek is the dominant religion; the Poles are Catholics; the Finns partly Lutheran;—finally, there are Mussulmans, idolators, and a great number of Jews.

The government is an absolute despotism; but certain provinces have privileges. Before 1831, Poland was a constitutional monarchy.

§ III.—WATERSHED OF THE BLACK SEA.

This watershed comprises many varieties of country and climate; but, generally speaking, the part adjoining the sea is fertile and temperate, whilst that of the river sources is covered with woods and morasses; it forms three great basins only separated from one another by insignificant knolls and almost horizontal plains.

1.—BASIN OF THE DNIESTER.

The upper part of this basin, near the Carpathians, is covered with low wooded hills, fertile, thickly peopled, and salubrious; the central part abounds in corn, cattle, and forests; the lower

part contains only lakes and marshes, plains without trees, large pasturages, and a very hot and unhealthy climate.

The *Dniester* (Tyras) rises in the Carpathians; it flows from N.W. to S.E. in a shallow bed, with a rapid current, over a rocky soil; bathes some villages in Galicia, a fertile but ill-cultivated province; receives a tributary that passes by STANISLAWOW, a fortified town; enters the Russian empire at KHOTINE or CHOCZIM, a fortified town, formerly one of the bulwarks of the Ottoman empire, taken by the Russians in 1739, 1769, and 1788. It passes at a distance of 10 miles on its left, KAMENETZ or KAMIENIEC, formerly the chief place of arms of the Poles against the Turks, but of which there only remains an old castle; washes BENDER, a city defended by an old citadel, famous as being the place where Charles XII. resided after the battle of Pultawa;—TIRASPOL, a town defended by a citadel; it finishes after a course 500 miles in length, by a large mouth at AKERMAN, a town indifferently fortified, with a small harbour opposite the fortress of OVIDIOPOL.

The basin of the Dniester contains:—1, *Galicia*, an ancient Polish province, which fell to the share of Austria in the partition of Poland, and which, lying on the eastern side of the Carpathians, is a sort of advanced camp against Russia;—2, *Podolia*, an ancient Polish province acquired by Russia in 1792;—3, *Bessarabia*, a province that constituted an independent state in the middle ages, then it was fought for by the Hungarians and Moldavians, then it fell under the Turkish rule in 1486, and was wrested from Turkey by the Russians in 1812.

Between the mouths of the Dniester and Dnieper we observe on the Black Sea the modern town of ODESSA, a creation of Catherine II. and the Duke of Richelieu, a very flourishing port, the best in the Russian empire, defended by a citadel and regular fortifications, the mart of all the trade of the Black Sea; population, 118,000. The port was bombarded in 1854 by the British and French fleets.

2.—BASIN OF THE DNIEPER.

This basin, larger than the last, is enclosed on the north by a belt of low hills of granite or clay, and is composed in its upper part of an elevated plain, of low wooded hills, of rivers with

steep banks, and of immense morasses; in its central part, of an undulating plain, fertile, and even picturesque; in its inferior part, of low plains dried up, unfertile, and intersected by steppes. The country is generally rich and thickly peopled, and is the part of Russia where there were the fewest serfs.

The *Dnieper* (Borysthenes) rises in the marshes of the plateau of Valdai, flows from east to west in a very tortuous course, passes not far from VIASMA, on the road from Smolensk to Moscow; battle of 1812 (3rd November), in which the French in retreat repulsed the Russians. It becomes navigable at DOROGOBOUJ, runs through a plateau intersected by hills and streams with very steep banks, where the extremely broken ground proved fatal to the French in their retreat from Viazma to Orsha; it passes near VALOUTINA, battle of 1812 (20th August), in which Ney defeated Barclay de Tolly; washes SMOLENSK, where it is 328 feet in width.—This town, defended by strong walls and a citadel, lying on the road from Minsk to Moscow in the direction of the central line of Russia, is the key of the Upper Dnieper, and the principal nucleus of all the great communications with the centre of the empire; here it was that the two Russian armies, which had retreated from the Niemen, effected a junction, and where they were defeated by Napoleon on the 17th August, 1812; the town was set fire to, and the French crossed the river.—Thence the Dnieper, always skirted by the Moscow road, reaches KRASNOI, battle of the 12th August, 1812, where a Russian corps checked the march of the French army on Smolensk; battle of 17th November, 1812, where the French in their retreat succeeded in piercing the Russian army; it then washes ORSHA, where the French crossed the river in order to turn the Russians in Smolensk. It then runs in a southernly direction, which it maintains almost to the end; washes MOHILEV, engagement of 1812, won by Davoust over the Russians;—KIEV, the ancient capital of Russia, a large town well fortified, and regarded by the Russians as a holy city, the key of the Lower Dnieper and the point of convergence of many roads, the two chief of which lead to Smolensk and Moscow;—EKATERINOSLAV, where it is 4600 feet wide. It then forms enormous cataracts, which interrupt navigation, becomes covered with large wooded islets, washes KHERSON, a fortified port, with

ship building yards;—Oczakow, a fortress which has lost all its importance since the destruction of the citadel, taken by the Russians in 1788; opposite is the fortress of *Kinburn*, which closes the entrance to the river, and which was taken by the French in 1855; here it is that large vessels stop, and the river forms an immense shallow lake or *liman* by which it ends.

Its tributaries on the right are:—1, the *Berezina*, which rises in the marshes of Dolichitsy, flows through a country covered with forests and bogs, where the roads are raised in dykes; passes by Studianka, a village where the French crossed the river on the 26th November, 1812, and where they gave battle to the Russians on both banks;—Borisov, a town lying on the road from Wilna to Smolensk, the capture of which by the Russians compelled the French to cross at Studianka. The Berezina then receives a tributary which passes by Minsk, a town situated in the midst of immense forests, on the road from Warsaw to Smolensk, the capture of which by the Russians, in 1812, was one of the causes of the disaster of the Berezina. It next washes Bobruisk, a fortified town which protects the space between the Düna and the Dnieper, and ends below the last-named town.—This stream is very important as a line in advance of the Dnieper, by reason of the road that crosses it, the marshy country it flows through, the breadth of its bed and the rapidity of its current; the right bank commands the left everywhere, except at Borisov.

2. The *Pripetz*, which rises in the marshes of Prujini, flows from west to east, and passes near Pinsk.—This town, the nucleus of several roads, gives its name to some morasses, the largest in Europe, through which the Pripetz flows, and between which are only three bad footpaths running through inundated and impracticable forests.—The Pripetz receives on its right a number of parallel tributary streams which water the fertile soil of Volhynia, and ends above Kiev. It might be easily connected with the Bug, a tributary of the Vistula, whereby the two seas would be joined; this union is in fact already effected by the Oginski Canal constructed for the purpose of draining the marshes of Pinsk, which unites the Pripetz with the Sczara, a tributary of the Niemen.

3. The *Bug*, a large stream that runs through Podolia, a

fertile and populous province, ends below NICOLAIEF, a military port with ship building yards, which has lost its importance since the treaty of 1856.

The tributaries on the left of the Dnieper are :—1, the *Desna*, which runs by BRIANSK, arsenal, cannon-foundry, manufactory of small arms ; TCHERNIGOV, a very ancient and ill-fortified town ; it ends at Kiev.

2. The *Worskda*, which runs by PULTAWA, a town formerly fortified, battle of 1709, in which Charles XII. was beaten by the Russians.

The basin of the Dnieper belongs to the Russian empire.

3.—PENINSULA OF CRIMEA.

Between the mouths of the Dnieper and Don, there runs into the Black Sea the peninsula of *Crimea* (Chersonesus Taurica), attached to the continent by the isthmus of Perekop, with a superficial extent of 8,880 square miles, and a population of 350,000. It is bounded on the north by the gulf of Perekop, and the stagnant sea or *Sivash*, betwixt which is the isthmus of Perekop 4 to 5 miles wide, divided by a ditch, and defended by a fortress ; on the east by the Sea of Azof and the strait of Ienikaleh ; on the south and west by the Black Sea. The Sivash is divided from the Sea of Azof by the *Tongue of Arabat*, a narrow slip of sandy land 70 miles long, and not above 1,600 to 2,000 feet wide, only open on the north by the strait of *Ghenitchi*, which is little more than a yard deep, and is quite dry in summer.

The northern part of the peninsula is a boundless plain, sometimes burning hot, sometimes frozen, charged with salt and saline marshes, everywhere covered with high grass and good pasturage. The southern part rises gradually by small hills, fringing the streams which run, some into the Black Sea, others into the Sivash. Among the former we observe the *Alma*, famous for the victory of the French and British over the Russians in 1854 ; the *Katcha*, in whose basin lies BAKTCHI SERAI, the ancient residence of the Khans of Crimea ; the *Belbek*, the *Tchernaia*, which runs through the valley of Baidar, and falls into the bay of Sebastopol ; famous for a victory of the French and Piedmontese in 1855. Among the latter we find the *Salghir*, which

washes SIMFEROPOL, capital of the Crimea; it is 93 miles long. These streams rise in the *Yaila* hills which fringe the S.E. coast of the Crimea, with a wall 93 miles in length, by from 6 to 25 miles in thickness, leaving between itself and the sea a border of small fertile picturesque valleys, which enjoy an Italian climate. The highest peak of the Yaila hills is the *Tchatir Dagh* (hill of the Tent), which is 5,182 feet high.

Excepting Simferopol and Baktchi Serai, the most important towns of the Crimea are on the sea. On the S.W. coast lies EUPATORIA or *Koslov*, a commercial town, occupied by the French in 1854, and converted into a stronghold; then the beach of *Old Fort*, where the allied army landed on the 14th September 1854; lastly SEBASTOPOL, founded by Catherine II. in 1786, the only harbour in the Black Sea capable of admitting ships of war, and of forming a great naval establishment. This port, 250 miles distant from Constantinople, whence a fleet could reach that city in fifty hours, is composed of a large interior roadstead, into which the Tchernaia falls, and of three bays on the south side of the roads. This opens into the Black Sea on the west, and on the east runs inland from 3 to 4 miles between two cliffs of from 70 to 80 feet in height; it is nearly a mile wide, from 30 to 50 feet deep, has no islands, and an excellent bottom. Its entrance is 1,640 to 1,970 feet, and is defended on the north by Fort *Constantine*, on the south by Fort *Alexander*; between these forts the Russians sank their ships to prevent the allied fleets penetrating into the roadstead. The north side of the roads is only indented by insignificant creeks, fringed with rocks, crowned by *North fort* and other works. At the end of this coast are the heights of *Inkerman*, famous for the victory of the allies in 1854. The south coast contains Sebastopol with all its establishments; it is indented by three important bays: *Artillery* bay, the *Harbour*, and *Careening* bay; the *Harbour*, the entrance to which is defended by two forts, *Paul* and *Nicholas*, exceeds a mile in length by 1,300 to 1,600 feet in width, its depth is from 30 to 50 feet. On the west side lies the town; on the east side are the arsenal, the docks, the barracks, the admiralty, and beyond these the suburb of *Karabelnaia*. The town lying between Artillery Bay and the Harbour is built in the form of an amphitheatre on a mound

213 feet high, which belongs to the plateau of Cape Khersonese, a plateau comprised between the bay of Sebastopol on the north, a range of low hills on the east, and the sea on the other sides. It was on this plateau that the allied armies established themselves in 1854, in order to lay siege to Sebastopol, drawing their supplies from *Kamiesh* bay, of which the French had made a port, and from the small harbour of *Balaklava*, which the British occupied. The town and its dependencies were defended on the side of the plateau by a series of works extending from Careening to Quarantine Bay; the main fort was the *Malakoff* tower, which commanded Karabelnaia and the Harbour; the capture of this work compelled the surrender of the town. As the treaty of 1856 forbids Russia to have ships of war and military establishments in the Black Sea, Sebastopol is now merely a half-ruined town, with not more than from 7 to 8,000 inhabitants.

On doubling Cape Khersonese we find on the S.E. coast BALAKLAVA, a small, very deep, and very safe port; KAFFA or THEODOSIA, a very flourishing town when the Genoese were masters of the Black Sea, taken by Mahomet II. in 1475; it has still a good harbour and some remains of fortifications; KERTCH, near the ruins of *Panticapæum*, capital of the ancient kingdom of Bosphorus, with a good harbour, an arsenal, a foundry for the requirements of the navy; it was occupied by the allies in 1855; IENIKALEH, on the strait which connects the Black Sea with the Sea of Azof, defended by a fortress and numerous batteries; taken by the allies in 1855.—There only remains to be mentioned the forts of *Arabat* and *Ghenitchi*, which command the ends of the roads running along the Tongue of Arabat. This and the Perekop road are the only ones leading from the mainland into the peninsula. It was by them that the Russians twice invaded and conquered the Crimea; it was by them that in 1854 the Russians brought the supplies for Sebastopol. Ghenitchi was bombarded by the allies in 1855.

The inhabitants of the Crimea are descendants of the Tartars of Genghis Khan; after the ruin of the great horde of Kapchak they formed a horde apart, which submitted to the Ottoman emperors in 1479, and was conquered by the Russians in 1783.

4.—BASIN OF THE DON.

The upper part of this basin is rather fertile and but slightly diversified; its lower part is covered with arid steppes and monotonous plains.

The *Don* (Tanaïs) rises in Lake Ivanov, near Epifan, runs from N.W. to S.E., through a country abounding in very fertile plains and low hills, passes near VORONEJ, an important town, where Peter I. established shipbuilding-yards for his navy; it flows very much to the east as if to fall into the Volga, from which it is only 25 miles distant; but the two rivers come in contact with a line of granite hills, which compels them to turn aside abruptly, the Volga to the S.E., the Don to the S.W. Then the latter flows through an immense and monotonous plain, without cultivation or roads, dotted over with a few hamlets and covered with pasturage, which the Cossacks wander over with their cattle and their small indefatigable horses.—The Cossacks of the Don occupy a territory of 60,000 square miles, which they are commencing to cultivate, and where numerous villages are rising up. They enjoy great liberties, and furnish to the army fifty-eight regiments of calvary, numbering 52,000 sabres, and fourteen batteries of horse artillery. Their principal establishment is TCHERKASK on the Don, below which the river ends near AZOF, a port silted up, and a ruined fortress opposite TAGANROG, a fortified town and port, the mart of the northern trade, bombarded in 1855 by the allies. Its total length is about 1,000 miles. Its principal tributary is the *Donetz*, which runs through the fertile province of Ukraine.

The basin of the Don forms part of the Russian Empire.

§ IV.—ISTHMUS OF THE CAUCASUS.

The Black Sea and the Caspian Sea are separated by a large isthmus, traversed from N.W. to S.E., from the strait of Ienikaleh to Cape Apcheron, by a dense wall of mountains, called the *Caucasus*, which should be regarded as the boundary between Europe and Asia, the northern watershed of which would consequently belong to Europe. It is crossed by only one great road running from Mozdok to Tiflis by the defile of Dariel. From Mont *Elburz* (17,796 feet), the highest summit of the chain,

there runs northwards a branch which rapidly declines in height, separates the waters of the two seas, and then forms the dividing line between the Don and the Volga; this branch is the framework of the northern watershed of the Caucasus, which is bounded on the west by the Black and Azof seas, on the east by the Caspian Sea, on the north by the two rivers from the obtuse angle formed by their courses.—The country near the Caucasus is hilly, intersected by small valleys, watered by numerous streams, the two principal of which rise in Mont Elburz, the Kuban going to the Black Sea, the Terek to the Caspian; this is Circassia, a fertile country, inhabited by a race remarkable for their beauty, their vigour, and their passionate love of independence. Russia seeks to impose on this people her laws, her customs, and her religion; to attain this end, she has long kept in the country 100,000 soldiers, and it is only quite recently that she has been able effectually to subdue the country, and this subjugation has been followed by the voluntary exile of a large proportion of the native inhabitants; 40,000 Cossacks are colonized for the defence of the Terek and Kuban. The northern country is composed of enormous plains, arid steppes, marshy lakes, sluggish streams; here are the camps of the Kalmucks and of the Cossacks of the Don, the Volga, and the Black Sea.

The watershed of the Black and Azof seas shows no remarkable river, except the *Kuban* (Hypanis); this river, together with the Terek, which falls into the Caspian Sea, forms the true frontier line of Russia fronting the subjugated peoples of the Caucasus; it is bordered with posts and fortresses, washes no place of importance except EKATERINODAR, a fortified town, the chief town of the Cossacks, and ends in Lake Kuban, which is divided by a narrow neck of land from Lake Taman, near which is the fortress of FANAGORIA.—It receives on the left numerous tributary streams, which flow through the mountainous country inhabited by the till lately independent *Tcherkesses*.—The eastern shore of the sea of Azof is inhabited by the Cossacks of the Black Sea, shepherds and fishermen, who present nearly the same characters as those of the Don; they form a population numbering 200,000, which provides for the Russian army twelve regiments of cavalry and four batteries of artillery.

The watershed of the Caspian Sea has on the west coast of

that sea :—1, AKHTI, a fortress on the Samour, covering the road from the Kour to Derbend ;—2, DERBEND, capital of Daghestan ; a middling port with strong walls and a citadel ; it is said to have been founded by Alexander the Great ; in its vicinity are seen the remains of a great wall studded with towers, which closed the space between the Caucasus and the sea, and was prolonged for 100 miles on the other side.—The principal river is the *Terek*, which rises near DARIEL, a very important fortress guarding the principal pass of the Caucasus and the road to Tiflis ; it runs from south to north, washes VLADEKAUKAS and MOZDOK, fortified towns, turns due east, and terminates by a great many mouths, below KISLIAR, a flourishing town. It receives on its right numerous tributaries, which run through the country of the *Ossetes* and *Lesghis*. In the mountains, till lately, the Russians only possessed the great road from Mozdok to Tiflis.

The isthmus of the Caucasus belongs to the Russian Empire.

§ V.—WATERSHED OF THE CASPIAN SEA.

This watershed comprises the most eastern part of Europe ; hilly on the N.E., it is everywhere else composed of immense cold and infertile plains, and it contains the largest river in Europe.

1.—BASIN OF THE VOLGA.

The enclosing belt of this basin is formed on the north by the Chemokonski plateau, on the east by the Ourals, on the west by the low hills separating it from the Don. A country of rather fertile plains on the N.W., it is hilly, cold, and wild in the N.E., and contains nothing but steppes and morasses on its southern part ; it is especially remarkable as comprising the central part of the Russian Empire, and Moscow ; but the large river, falling as it does into a lake without outlet, and bordered by barbarous countries, has not the importance which its long course, its great volume of water, its easy navigation, and its numerous tributaries ought to give it.

The *Volga* (Rha) rises in the plateau of Valdai, at a height of 872 feet above the Caspian Sea, runs at first from S.W. to N.E., forming several lakes, washes TVER, a large manufacturing and

commercial town, defended by an old fortress or *kreml*, on the road from Moscow to Petersburg;—it then runs S.E. and washes Iaroslav, a great manufacturing town;—Kostroma, on the road from Moscow to Perm;—Nijni-Novgorod, a large city, famous for its annual fair, that attracts 400,000 visitors, and where business to the extent of 14,000,000*l.* is transacted; it is defended by a citadel or *kreml*.—It passes near Kasan, ancient capital of the Kapchak empire, now a manufacturing and commercial town, defended by an old citadel, with an arsenal, &c., taken by the Russians in 1552;—turns S.W., and washes Simbirsk, and Saratof, governmental chief towns;—Tzaritzin, a fortified town in a remarkable position, at the place where the river turns abruptly to the S.E. From this point it is skirted by the road from Moscow to Astrakan, flows through immense steppes and arid heaths, forming a multitude of islands, washes Tchernoilar, a town regularly fortified, and ends by seventy mouths, occupying a space of 12 miles, at Astrakan, a commercial and military port, the best on the Caspian Sea.—Its total length is 2,300 miles, its current is always gentle and regular, its navigation which commences at 150 miles from its source is nowhere interrupted; in summer it is a magnificent canal covered with boats; in winter it is a road of ice, covered with sledges and carriages.

Tributaries on the Right.—1. The *Oka* rises below Orel, runs from south to north, receives the *Oupa*, which flows by Tula, a town remarkable on account of its great arsenal and its manufactory of small arms; it washes Kalouga, receives the *Louja*, which runs by Maloiaroslavetz, battle of 1812, in which the French defeated the Russians; washes Kolomna.—It was by the road from Moscow to Kolomna, and thence to Kalouga, ascending the river Pakhra, that the Russian army, after evacuating Moscow, effected its semicircular movement from S.E. to N.W., in order to close the Kalouga road against the French.—At Kolomna the Oka receives the *Moskova*. Into this runs the *Kolocza*, on which was fought the battle of *Borodino* or *Moskova*, in 1812, and the Moskova washes Moscow, the ancient capital of Russia, lying in the middle of the plateau, and at the point of junction of the principal roads of the empire; it is the holy town of the Russians and the centre of their nationality; it was taken

by the French in 1812, after the battle of Borodino, and burnt down by the Russians, who thereby put a stop to Napoleon's advance. Its population amounts to 340,000; it possesses a *kreml*, held in much veneration on account of the palaces and the churches it contains, some of which were blown up by the French in 1812, an arsenal, a cannon foundry, &c.—After the junction of the Moskova, the Oka runs a tortuous course to the N.E., and ends at Nijni Novgorod.

2. The *Soura* washes PENZA, and is 372 miles long.

Tributaries on the Left.—The *Tvertza* ends at Tver, and is connected with the Volkow by a canal.

2. The *Mologa* is 250 miles long and communicates with Lake Ladoga by the Tikhvin canal.

3. The *Cheksna* issues from Lake Bielo, and is connected with Lake Ladoga and the Dwina.

4. The *Kama* rises in the heights of Chemokonski, runs south parallel with the Ourals, which send numerous tributaries to it, flows through the cold and high plains of Perm, washes PERM, a large town, through which passes the road from Moscow to Siberia.—The government of which this is the chief town extends over both sides of the Ourals (for the Russians recognize no boundary between Europe and Asia), and contains mines of iron, copper, and gold. EKATERINEBURG, a new town, lying on the Asiatic side, is the centre of the mining establishments; it has immense forges, a cannon foundry, manufactories of small arms, &c.—The Kama ends below Kasan; its total length is about 1,243 miles.

The basin of the Volga forms part of the Russian empire.

2.—BASIN OF THE OURAL OR JAIK.

This river, remarkable as forming the boundary between Europe and Asia, runs at first from north to south in a mountainous country, rich in gold, copper, and iron mines; it then runs from east to west, and washes ORENBURG, a fortified town, the bulwark of the empire against the incursions of the Tartars; it then receives the *Ilek*, on which stands the small fortress of ILEKSKAIA, again turns southwards, through sandy and marshy steppes, inhabited by Cossack shepherds and fishermen, washes OURALSK, the chief town of these Cossacks, and ends in the

Caspian Sea, at the small fort of GOURIEF. Its navigation is easy, and it swarms with fish; its banks are studded with small forts.

§ VI.—WATERSHED OF THE BALTIC.

This watershed displays a succession of innumerable low hills, peat-bogs and lakes, in the midst of immense plains, which seem to lie upon a foundation of granite, the points of which project here and there; the rivers are large, but marshy, and carry down with their current the trees that fringe their banks; the air is moist and unhealthy, the climate very changeable, and subject to more severe cold than the latitude would warrant, on account of the immense plains across which the winds from the Arctic Ocean and Asia blow without meeting any obstacle, till they reach the Carpathians, whence they are reflected. The coast as far as the gulf of Finland is low and excavated by several sea lakes, the most remarkable of which are the *Frische Haff* and the *Curische Haff*.

1.—BASIN OF THE PASSARGE.

This very small basin is only remarkable from the operations of which it was the theatre in 1809; Napoleon established his winter-quarters there after the battle of Eylau, and many engagements took place there, chiefly at DEPPEN, SPANDEN, LOMITTAU, LIEBSTADT, OSTERODE and MOHRUNGEN. The country is not fertile, but is well cultivated by an industrious people.

The river is of no importance in itself; it runs from S.E. to N.W., through a steep and wooded ravine, is everywhere fordable, washes BRAUNSBERG, and falls into the Frische Haff.

This basin belongs to Prussia.

2.—BASIN OF THE PREGEL.

It is a flat country, full of lakes, heaths and muddy tracts, where communications are very difficult; it is chiefly remarkable for the campaign of 1807.

The *Pregel* is the outlet of the interior lakes of east Prussia; it washes GUMBINEN;—INSTERBURG—JÖGENDORF, battle of 1757, where the Russians beat the Prussians; EAST KÖNIGSBERG, capital of Prussia (pop., 101,000), a fortified town, taken by

the French in 1807; below this town it falls into the Frische Haff, the entrance to which is defended by PILLAU, a fortified town, the maritime key of Prussia.—It receives the *Alle*, which flows from south to north, washes ALLENSTEIN, GUTTSTADT, HEILSBERG, engagements of 1807, passes near EYLAU on the Königsberg road, where the sanguinary and undecisive battle of 1807 was fought; washes FRIEDLAND, battle of 1807, won by Napoleon over the Russians, and ends at WEHLAU. The Alle forms with the Passarge, the lower Pregel and the sea, a very remarkable rectangular space which was the theatre of operations in the campaign of 1807.

The basin of the Pregel belongs to Prussia.

3.—BASIN OF THE NIEMEN.

It is a wooded, marshy country, furrowed by small streams that flow through deep ravines; the soil is moist, pastoral, fertile, the climate severe and unhealthy, the population miserable and degraded by serfdom.

The *Niemen* rises in the marshes of Dolguinowiczi, near Minsk, runs from S.E. to N.W., receives the *Sczara*, a marshy and wooded river, which is connected by a canal with the Pripetz, and washes SLONIM, a town lying in an impracticable country on the road from Warsaw to Petersburg by Proujani. It then passes by GRODNO, a remarkable town on the great Warsaw road, where the French crossed in 1812; it next enters a deep ravine formed by precipitous heights, which have only a small number of passes, and where the right bank almost always commands the left; it passes near KOVNO, where it is 656 feet wide, and where it was crossed by the French army in 1812.—At this town it receives the *Vilia*, which rises in the Schilintzi marshes, runs from east to west in a very winding course, and washes VILNA, capital of Lithuania, now commanded by a strong citadel; population, 69,000. At the commencement of the campaign of 1812, Napoleon halted a fortnight in this town, which was the cause of his disaster; on their return, the remnants of his army perished there of famine and misery.—From Kovno the Niemen passes by TILSIT, celebrated for the treaty of 1807, splits into several arms and ends in the Curische Haff, the entrance to which is defended by MEMEL, a good port and fortress.

The basin of the Niemen comprises ancient *Lithuania*, which now belongs to the Russian empire. The mouths of the Niemen belong to Prussia, along with the Curische Haff and Memel.

4.—BASIN OF THE DVINA.

This basin is a perfectly flat country, studded with lakes, marshes, woods, small streams, bad bridle paths forming continuous defiles; there are few villages, only isolated cottages, pasture-grounds, and a miserable population.

The *Dvina* or *Düna* rises from the Valdai lakes not far from the sources of the Volga, flows at first from north to south, washes VITEPSK, a town defended by old walls, taken by the French in 1812; it then flows from S.E. to N.W., receives the *Oula*, famous in the campaign of 1812, and which passes by LEPEL, a town protected by old walls; it washes POLOTSK, a town protected by old walls and a *kreml*, which was the scene of six engagements in 1812: this was the point Napoleon's left wing could never pass. It then passes by DRISSA, at the confluence of the river of that name, which offers good defensive positions where the Russians had constructed an intrenched camp in 1812; DUNABURG, a fortress with a bridge head, taken and dismantled by the French in 1812;—RIGA, a large fortified town, with a citadel and bridge-head, one of the bulwarks and best ports of the empire, besieged by the combined French and Prussians in 1812; battle of 1701, in which Charles XII. defeated Augustus of Saxony. The Dvina ends below that town opposite fort *Dünamünde*, in the gulf of Livonia, after a course of 600 miles in length, it is a shallow stream encumbered with rocks and high reeds. It is 400 feet in width at Vitepsk, 2,000 at Riga, and 4,000 at Dünamünde.

Into the gulf of Livonia to the south of Riga, falls the little river *Aa*, which passes by MITTAU, the capital of Courland.

The basin of the Dvina comprises the Russian provinces of *Vitepsk*, *Livonia*, and *Courland*.

5.—BASIN OF THE NARVA.

This basin contains in its middle Lake *Peypus*, 74 miles long by 37 broad, which is fed by several streams, the chief of these being the *Velikaia*, which passes by PLESKOW or PSKOV, a fortified

town that was a republic in the middle ages; it empties its waters into the gulf of Finland by the *Narva*, which flows by NARVA, battle of 1700, in which Charles XII. defeated Peter the Great.

The basin of the Narva contains the Russian provinces of *Pskov*, *Livonia*, and *Ingria*.

Between the gulfs of Livonia and Finland, a sort of peninsula projects termed *Esthonia*, a marshy country fringed with islands; its capital is REVEL, a fortified town having a great trade, with a harbour situated at the entrance to the gulf of Finland, which is the station of a portion of the Russian fleet; it contains an arsenal, shipbuilding yards, a cannon foundry, &c.

6.—BASIN OF THE NEVA.

This immense basin has in its centre Lake *Ladoga*, which is 124 miles long by 74 broad, and which receives a great many streams; the principal are: on the south the *Volkow*, which brings down the waters of Lake *Ilmen* and runs by NOVGOROD, a very ancient town, a powerful republic in the twelfth century, now completely fallen into decay; on the west the *Woxa*, which drains Lake *Saima* and the numerous streams that feed it. Lake Ladoga discharges its waters into the east-end of the gulf of Finland by the *Neva*, a large stream of great depth, and subject to terrible overflows, which washes SCHLÜSSELBURG, a fortress near the lake, and ST. PETERSBURG, capital of the Russian empire, a city with a great trade, lying in the midst of ice-bound marshes and inundated islands, with a severe climate; its harbour, otherwise very convenient, is closed by ice for four months every year. Its population is 546,000; it possesses an arsenal, yards for building ships, a cannon foundry, military, naval and artillery schools, &c.

This basin is connected with that of the Volga by several canals. The first connection is effected by the Volkow and the tributaries of Lake Ilmen; it opens into Lake Ladoga, and is continued by a canal parallel to the lake as far as Schlüsselburg. The second is effected by the Siass, a tributary of the Volga. The third is effected by Lakes Biolo and Onega, and the river Svir.

7.—PENINSULA OF FINLAND.

Between the Gulfs of Finland and Bothnia is a sort of peninsula called *Finland*, which pours its waters into both gulfs. This country is crossed by a line of heights without distinct direction or connection, a sort of plateau from 660 to 900 feet in height, with cliffs of no great height running from north to south, studded with lakes, covered with rocks, where all the ground is very much cut into by the water, beneath which it almost seems to be disappearing; marshes, rivers, expanses of water of all kinds broken up, torn to shreds as it were, and indented in all manners, form an inextricable network, in which navigation is difficult on account of the rocks, the inundations, and the ice. The coasts are fringed by a girdle of precipitous rocks, separated from one another by channels that open up dangerous passages. The climate is severe and unhealthy, the land is fertile in cereals, pasturage, and wood; no roads, few towns, an active and intelligent population.

The interior of this singular country offers no place worthy of notice; but on the coast we find:—1. VIBORG, an important port and stronghold, defended by an old castle, a citadel, and batteries.—2. FREDERIKSHAMM, a good port and fortress which has lost its importance.—3. ROTSCHENSALM, a fortified town and fine military port; in its dockyards are built flat-bottomed galleys and gun-boats, the only vessels that can be used in this sea on account of the great number of small islands, shoals, and reefs it contains. Its fortifications consist of seventeen detached works, the most remarkable of which is fort Glory, built 2½ miles out at sea.—4. LOVISA, a small port near which is the fortress of *Swartholm*.—5. HELSINGFORS, capital of Finland, a fortified town with a good harbour. Its roadstead is defended by the fortresses of SVEABORG, masterpieces of military architecture, forming the Gibraltar of the Baltic. They are built on seven islands lying 3 miles S.E. of Helsingfors, arranged in the form of an ellipse, and leaving a fine harbour between them. The strongest is *Gustafs Svœrd* (Gustavus's sword), which forms the main channel; there are no fewer than four lines of fortifications excavated out of the granite. The inner harbour can shelter a fleet; it contains shipbuilding yards, workshops,

foundries, magazines, barracks, &c. This formidable stronghold was delivered into the hands of Russia by treason in 1808; it was bombarded by the combined English and French fleet in 1854.—6. HANGÖ UDD, a fine roadstead, defended by the forts of *Gustafsvœrn*, destroyed in 1854.—7. ABO, defended by a citadel, the ancient capital of Finland.—8. WASA, a ruined port.—9. ULEABORG, a good port.

From Petersburg the coast is skirted by a road that passes through all the towns we have enumerated; it is continued on the one hand on the west coast of the Baltic as far Stockholm, on the other, on the east coast from Petersburg as far as Dantzic.

Finland, which was for long the theatre of the wars between the Swedes and the Muscovites, has become one of the most important provinces of the Russian Empire; it enjoys great privileges, has a separate administration, and has accommodated itself to the rule of the czars, which has given it peace and prosperity.

Some of the islands of the Baltic belong to this watershed. The islands of *Œsel* and *Dago* at the entrance of the gulf of Livonia, are moderately well fortified. The *Aland* isles at the entrance to the gulf of Bothnia form a most important naval position, on account of the propinquity of Stockholm; the Russians seized them in 1809. There are eighty of them which are inhabited by a thoroughly Swedish population. In the east part of the chief island, on the channel of *Bomarsund*, there was a fortress which was destroyed in 1854 by the allies. The small island of *Kotline* or *Cronstadt* at the head of the gulf of Finland, lies at the distance of 17 miles from Petersburg. This island, which is 7 miles in length by 1 in breadth, is completely surrounded by a sandbank, except at its S.E. end, where lie the town and harbour. On the north the channel is impracticable even for boats; on the south there is only a narrow winding channel, 25 feet deep at its deepest part, beyond which the depth of water diminishes all the way to Petersburg, where it is only 8 feet. The town contains 48,000 inhabitants, its trade is very extensive, but its chief importance lies in its batteries, its granite forts, and the quays surrounding its immense harbours. One of these is devoted to commerce, the two others to the imperial navy; the shipbuilding yards, docks, magazines, naval workshops, careening basins, building

slips, are all constructed on the most luxurious scale, and with a kind of theatrical display. The entrances and approaches of the triple harbour are defended by five forts on the sea, and seven forts or large batteries on the coast and quays; these forts have two and three stories of casemated batteries, and are mostly built with blocks of granite. The disposition of these forts has been calculated so as to enfilade the windings of the channel, so that a ship approaching Cronstadt is obliged to present its prow to the fire.

§ VII.—WATERSHED OF THE ARCTIC OCEAN.

This watershed is merely an immense plain sloping downwards from its origin, the uniformity of which is hardly interrupted by the slight undulations which determine the direction of the streams; everywhere are to be seen immense steppes, forests, marshes, frozen deserts, through which wander a small number of wild inhabitants, with herds of reindeer; from seedtime to harvest there are only sixty days; no towns, no roads. The coasts are alternately low and high, and are indented by several gulfs; the principal are: the gulfs of Archangel, Onega and Kandalaskaïa, in the White Sea, and the gulfs of Tcheskaia and Khainon.

1.—BASIN OF THE PETCHORA.

This river rises in the Oural mountains, and flows through the desolate plains inhabited by the Samoiedes, barbarous and idolatrous tribes, who pay a tribute of furs to the Russian Empire; it receives a number of tributaries, which descend from the Poyas, and ends by a wide mouth in the Arctic Ocean.

2.—BASIN OF THE DWINA.

This river is formed of two branches, the *Soukhona*, which rises near VOLOGDA, a large manufacturing and commercial town, and the *Vitchegda*, which flows through an almost desert country; it passes through low and inundated tracts of lands, washes ARCHANGEL, a large commercial and military port, and ends near that town, in the White Sea.—A canal connects this basin with that of the Volga by Lake Kubinsk and the Cheskna.

3.—BASIN OF THE ONEGA.

The great lake Onega is the receptacle of all the streams that rise in the Olonetz hills; it is connected with the White Sea by lakes Sego and Vigo; with the Baltic by the Svir, Lake Ladoga, and the Neva; with the Caspian by Lake Bielo and the Volga. On its banks lies PETROZAWODSK, important on account of its forges, its cannon foundry, and its great gunpowder manufactory.

4.—LAPLAND.

Between the White Sea and the Arctic Ocean there runs a peninsula remarkable for its barreness, its severe climate, and its inhabitants. The Laps form a singular variety of the Finnish race; they are distinguished for the lowness of their stature and their barbarous manners; they are distributed as shepherds or fishermen, to the number of 60,000, over a territory more than 115,830 square miles in extent, and pay the Russian Empire a tribute of furs.

§ VIII.—STATISTICS.

SUPERFICIAL EXTENT.	POPULATION.	ARMY.	NAVY.	REVENUE.	DEBT.
		Russian Empire.		£	£
2,093,272 sq. miles.	67,701,000	805,000 Men.	341 Ships	55,640,000	266,360,000
			2,307 Guns.		
Possessions in Asia. 6,412,230	Possessions in Asia. 8,328,000	75,000 Horses.			

CHAPTER VIII.

SCANDINAVIAN REGION.

§ I.—GENERAL IDEAS.

THIS large peninsula, the western appendix of Northern Europe, is bounded on the north by the Arctic Ocean, on the west by the Atlantic Ocean, on the south by the German Ocean and Baltic Sea, on the east by the Baltic Sea and the rivers Tornea and Tana, which run through the isthmus, by which it is connected

to the continent.—It lies between N. lat. 55° 20′ and 71° 15′, and E. long. 4° 35′ and 31° 5′. Its length, from Cape Falsterbo to North Cape is about 1,150 miles; its greatest breadth, from Bremanger Isle to Bjorko Isle, is about 500 miles.

This vast region, situated on two seas, divided by a great mountain chain, abounding in lakes, rivers, and torrents, indented by numerous gulfs, and fringed by many islands and reefs, formerly played a great part in the history of Northern Europe, which it ruled; its influence is now annihilated by the giant power of Russia, whose satellite it seems to be.—The climate is severe, but the land is well cultivated; the towns are few and small, but the communications by land and water are pretty easy; the products of the surface of the country are only pastures and forests; but the iron and copper mines are among the most productive in the world; lastly, if this immense territory has but a scanty and scattered population, the Scandinavians are a people of pure and antique morals; they are free, proud, peaceable, industrious, educated, and they maintain themselves in the foremost rank of modern nations, by their love of science, their military virtues, and the memory of their past history.

The framework of this region is connected with the heights of Northern Europe by the plateaus of Olonetz, near the sources of the Enara and Tornea. At this point commences an immense chain, which extends north and south; the north part is of no great height, and about 125 miles in length; it bends eastwards as far as the Tana Fiord; the south part, of much greater size, bends westwards in the form of high and dense mountains, always covered with snow; it skirts the Atlantic Ocean, to which it only sends mountain torrents, and forms three chief groups: the *Koelen* on the north, the *Dovrefield* or *Dofrines* in the middle, the *Langfield* on the south. This last splits into two branches: one, the Langfield properly so called, which continues to skirt the Atlantic, retains the characters of the main chain, and ends at Cape Lindesnæs (the Naze); the other, which is only composed of insignificant heights, small plateaus and marshes, is called the *Seves* hills, runs S.E. between the Glommen and Dahl, lakes Wener and Wetter, and ends at Cape Falsterbo. These two branches form the framework of

the two kinds of peninsulas into which the whole peninsula divides, and which are separated by the Skagerrak and Cattegat. The length of the whole Scandinavian chain is upwards of 1,240 miles, and its breadth is in some places about 100; generally speaking, it is a block without crest or sharp peaks, forming plateaus from 25 to 30 miles in extent, and from 2,000 to 4,000 feet high, very rugged and wild. The highest summit is in the Langfield, the *Skagstolstind*, 8,366 feet.

This long chain, with its two branches in the south, divides the peninsula into three watersheds: 1, the eastern, or that of the Baltic Sea; 2, the southern, or that of the Cattegat and Skagerrak; 3, the western, or that of the Atlantic Ocean.

§ II.—HISTORY OF THE GEOGRAPHY OF SCANDINAVIA.

It was from Scandinavia that some of the tribes came forth who invaded the Roman Empire, and it was from the same country that those Northmen came, who, in the ninth and tenth centuries, ravaged the coasts of Germany, Gaul, and England. The history of this region in those times is very obscure; we find it divided into a number of small states, which ended by coalescing into two great dominions: Norway on the west watershed, and Sweden on the east watershed. These two kingdoms remained divided and hostile until 1397, when Margaret, Queen of Denmark, married the King of Norway, was called to the throne of Sweden by the Swedes, and united the three northern kingdoms. This union was the source of interminable wars until 1523, when Gustavus Vasa expelled the Danes from Sweden, ascended the throne by the choice of his fellow-countrymen, and caused his kingdom to enter into the European political system. Norway remained united to Denmark, whose destinies it followed, until 1814. Gustavus Adolphus, who played such a prominent part in the Thirty Years' War, was grandson of Vasa; Sweden at that time held almost all the Baltic coast, Finland, Ingria, Esthonia, Livonia, Pomerania, Wismar, Bremen, Verden, &c.; she ruled over all the north of Europe, and it was believed that she would be called to play in Germany the part afterwards taken up by Prussia. The fourth successor of Gustavus Adolphus was that Charles XII., who up-

set the whole north, but was unable to cope with the growing power of Russia; Sweden had to yield to this rival Ingria, Livonia, Esthonia, &c. The fourth in succession to Charles XII. was Gustavus IV., who displeased the Swedes by making war on France and Russia, and losing Pomerania and Finland; he was deposed in 1809, and his uncle, Charles XIII., was called to the throne, who caused the French Marshal Bernadotte to be elected Crown Prince. This latter was one of the most active agents of the last coalition against France, and by the treaty of 1814, he was rewarded by the acquisition of Norway, given in exchange for Pomerania and Finland. Since that time the two kingdoms of Norway and Sweden have been united under the same sovereign, but with separate constitutions and administrations. The form of government is a constitutional monarchy in both countries. The Lutheran is the prevailing religion. The inhabitants of the centre and south are of Teutonic race; those of the north are of Finnish race.

§ III.—EASTERN WATERSHED.

This watershed is broad, almost flat, traversed by a great many rivers which all flow from N.W. to S.E., and form numerous lakes; the country is poor and ill-peopled, especially in the north; the climate is more severe than is justified by the latitude, because the Baltic coast is open without protection to the winds of Asia which have blown across the immense icy plains of Russia; the ports are closed for a great part of the year by ice.

1. The *Tornea* serves as the boundary between Russia and Sweden, it is almost always frozen, and ends at TORNEA, at the top of the gulf of Bothnia.

2. The *Kalix*, *Lulea*, *Pitea*, and *Umea*, are rivers of the same kind, presenting nothing noteworthy, and ending beside towns of the same names. The country they flow through is Bothnia.

3. The *Dahl* waters the wild and hilly country of Dalecarlia, which abounds in mines; it forms a long series of lakes, and ends in a large gulf studded over with islands and rocks. The mines of *Falun* and *Hedemora* are in its basin.

4. The *Maelar* is an immense collection of water, the very much indented borders of which receive a great number of lakes

and interior streams; on the north coast lies WESTERAS, battle of 1520, in which Gustavus Vasa defeated the Danes; and, in its northern gulf, UPSALA, a celebrated university. The immense number of islets, rocks, and gulfs, contained in this sort of interior sea, make it a regular labyrinth. Near its centre on two peninsulas and several islands lies STOCKHOLM, the capital of Sweden, a good port defended by the three fortresses of Wexholm, Frederiksborg, and Dalarœ; population, 133,000.

5. Lake *Wetter* is 75 miles long, from north to south; it empties itself on the east into the Baltic by the *Motala*, which runs through a succession of lakes, on which lie the towns of LINKŒPING and NORRKŒPING. At the mouth of the Gotha canal, in lake Wetter, lies the fortress of WANAS or CARLSBORG, the principal central stronghold of Sweden.

6. The *Helga* flows by CHRISTIANSTAD, a fortified town.

The other streams present nothing remarkable; but we observe on the coast the following ports:—1. CALMAR, formerly a very strongly fortified town, famous for the act of union of the three kingdoms of the North in 1397;—2. CARLSKRONA, a very strongly fortified town, built on several islets; a military port, defended by four fortresses and jetties armed with batteries; naval arsenal, school, ship-building yards and graving docks; it is the usual station of the Swedish fleet;—3. LANDSKRONA, on the Sound, a good port defended by a citadel and batteries.

The islands of *Gothland* and *Œland* belong to this coast; the former is 62 miles long by 25 wide; its capital, WISBY, was in the middle ages one of the greatest trading towns of the North.

§ IV.—SOUTHERN WATERSHED.

This is the finest portion of the peninsula; intersected with numerous lakes and rivers, and indented by deep gulfs; it is fertile, enjoys a temperate climate, and contains two-thirds of the population of Scandinavia.

First we meet with on the coast: HELSINGBORG, port and castle on the Sund, opposite Elsinore; HALMSTAD and WARBERG, then the following rivers:

1. The *Gotha* issues from Lake *Wener*, which is 86 miles long by 50 wide, washes BAHUS, a fortified town, and ends at GOTHEN-

BURG, a town of 45,000 inhabitants, with a large trade, and defended by two forts and the citadel of ELFSBORG.—Lake Wener is connected with Lake Wetter by a canal, which also unites the Cattegat to the Baltic.

2. The *Glommen*, the largest river in the peninsula, rises in the Langfield, runs from north to south, receives a great number of lakes and rivers, washes KONGSVINGER, formerly fortified, and ends at FRIDERIKSTAD, a very strong fortress and good harbour, defended by two forts, after a course of 370 miles in length.

At the head of the winding and deep gulf that forms the northern extremity of the Skagerrak, lies CHRISTIANIA, capital of Norway; pop., 57,000. The entrance to this gulf is defended: on the east by FRIDERIKSHALD, the principal stronghold of Norway, protected by three forts, before one of which Charles XII. perished; on the west by FRIDERIKSVOERN, a not very large harbour, defended by two fortresses and batteries, with a naval school and ship-building yards. On the west we also find HORTEN, a Norwegian military port, with an arsenal and dockyards.

3. The *Tarris* ends at CHRISTIANSAND, a fortified town, with a good harbour, protected by a citadel and batteries; ruined by the English in 1807. The bay could hold all the fleets of Europe.

The southern watershed belongs half to Sweden and half to Norway; a line drawn from north to south from the source to the mouth of the Glommen, following the course of the Seves hills, forms the boundary of the two kingdoms.

§ V.—WESTERN WATERSHED.

It is a very rapid slope, and seems only to form a very narrow strip of coast indented by many deep and intricate bays, and fringed by a long belt of islands and rocks, against which the sea dashes. The soil, entirely composed of granite, and scarcely furrowed by some small streams, is capable of but little cultivation; but the vegetation grows rapidly there, the climate is healthy, and the winter much less severe than on the Baltic watershed, owing to the protection afforded by the mountains and the vicinity of the Ocean.

The only remarkable places are:—1. BERGEN, with a good

harbour, the most trading town in Norway; defended by old fortified walls;—2. DRONTHEIM, a town with a considerable trade, at the head of a large gulf;—3. HAMMERFEST, a trading town;—4. VARDEHUS, in the Arctic Ocean, a small port and fortress, the most northerly in Europe. Among the numerous islands fringing the coast, the only ones meriting special notice are the *Loffoden* group, where the celebrated whirlpool of the *Maelström* is to be seen.

§ VI.—STATISTICS.

SUPERFICIAL EXTENT.	POPULATION.	ARMY.	NAVY.	REVENUE.	DEBT.
		Kingdom of Sweden.			
166,802 sq. miles.	4,114,000	Regulars 124,800 Volunteers 15,700	Steamships 18 Sailing ships 31 Row-gunboats 156	£2,964,000	£9,388,000
		Kingdom of Norway.			
118,342 sq. miles.	1,701,000	18,000	Steamships 17 Sailing ships 2 Row-gunboats 111	£1,040,000	£2,000,000

CHAPTER IX.

BRITISH REGION.

§ I.—GENERAL IDEAS.

THIS region consists of two large islands, Great Britain and Ireland, and of a number of small islands; they lie on the north-west of the European continent, between the North Sea, the Channel, and the Atlantic Ocean, and are situated between N. lat. 49° 53′, and 60° 40′; and E. long. 1° 50′, and W. long. 10° 25′.*

These islands, very much indented, highly diversified, well

* "The British Isles are actually united to the continent by several banks lying at greater or less depths, and on which the bottom encountered by the lead is of mud or sand. The whole are usually known under the name of *soundings*, because we can readily feel the bottom with lines of from 80 to 90 fathoms." (De la Bèche's *Geology*, p. 129.)

watered, but foggy, cold, and damp, abounding only in metals and pasture grounds, form the country where human activity displays itself on the most immense scale, and where the greatest artificial riches have been accumulated. Man has created everything there: he has completely changed the aspect of the country by improved modes of cultivation, canals, roads, harbours; he has been rendered essentially manufacturing and trading, by the nature of the soil and the geographical position of his land; profiting by his insular existence, which, by throwing him on his own resources, has forced him to develop his activity outwards, he has created for himself a purely artificial power, that of his ships, with which he moves the globe. The mart of all the productions of the world, this country distributes them to all others, after her manufacturing skill has increased their value a hundredfold; the most colonizing power that was ever known, she has carried her language and her flag to every part of the globe; mistress of the Atlantic Ocean by her position on the western flank of Europe, she menaces the three most powerful continental regions, Russia, Germany, and France, and secure behind her great sea-ditch and her moving rampart of ships, she seems to have nothing to fear from their armies; she commands the Mediterranean by the rocks of Gibraltar and Malta; North America by her immense possessions on that continent; South America by the West Indies; Africa by the Cape of Good Hope; in the Indian Ocean she rules without a rival, and she has made herself a wonderful empire of 180 millions of Asiatics; in short "she has on the borders of every continent, her advanced posts, which, according to the fortune of the moment, are by turns vantage points for conquest, places of refuge for retreat, and always centres of enterprise for a trade that braves every peril and knows no repose."*

§ II.—HISTORY OF THE GEOGRAPHY OF THE BRITISH ISLES.

The two large islands were called by the ancients, the larger *Britannia* on the south, and *Caledonia* on the north; the smaller *Hibernia*. The inhabitants of these island were of Gallic race

* Charles Dupin, *Force commerciale de la Grande Bretagne*, t. i.

with an admixture of Cimbri. Julius Cæsar endeavoured to conquer Britain; but it was not reduced to a Roman province until the reign of Claudius. Caledonia and Hibernia remained independent, and the inhabitants of the first, called *Picts* and *Scots*, waged continual war against the Britons; their invasions were obstructed by means of a great wall, called *Vallum Severi*, built between the Firths of Forth and Clyde.

When the Roman Empire was overrun by the barbarians, Britain was left to herself, and she renounced her connection with the empire; but then it was unable to resist the Picts, and called the Anglian and Saxon pirates to her aid; these first repulsed the barbarians of Caledonia, then they joined them, and the two together attacked the Britons and subdued them. Then the Anglo-Saxons founded on the south of the island seven small states, the names of some of which still remain; the British population took refuge in the western part, which took the name of *Wales*.

The Saxon heptarchy ended by becoming a monarchy, called *England* (Anglia), which was overthrown by the invasions of the Danes, and destroyed by the conquest of William, Duke of Normandy. This kingdom was then divided by the conquerors in such a manner that the Normans became the lords and the Saxons the serfs of the country; and the English aristocracy is to the present day of Norman origin. To the kings of William's race succeeded those of the house of Anjou or Plantagenets, under whom Ireland was conquered.

Up to this period this island had remained apart from Europe; it was divided into several half-barbarous states, which were constantly fighting with one another. The Normans interposed in their quarrels, and Henry II. succeeded in subduing the island, but his conquest was far from being definitive. Ireland brutalized beneath the yoke of the conquerors, treated as a foreign country, fought with indomitable constancy against the Norman rule; and in spite of the mixture of races, the events of all sorts that have occurred in the lapse of ages, and the concessions lately made in favour of the religion and liberties of this island, hatred to the English Government still survives as a passion in the heart of the mass of the Irish nation.

The Plantagenets being of French origin and vassals of the

kings of France by their possessions in Gaul, feudal wars, which gradually assumed the character of national wars, occurred between France and England, and in which the latter, after having at first been very successful, was finally beaten. These wars on the continent were quite opposed to the interests of England; and the pretensions of her kings to the crown of France delayed her political greatness for several centuries.

The Plantagenets were followed by the Tudors, a Welsh family, under whom England embarked upon a course in conformity with her destinies, and her maritime supremacy commenced. The Stuarts, kings of Scotland, who succeeded the Tudors, accomplished the union of the three great divisions of the British isles into one kingdom.

Caledonia or Scotland, after having been divided into several barbarous states, had, about the ninth century, become a monarchy; it remained apart from England until the twelfth, when the Plantagenet kings laid claim to rights of suzerainty over the Scottish kings; long wars were the result, in which the Scots succeeded in maintaining their independence. In 1603, James Stuart, King of Scotland, inherited the crown of England, and from that period dates the United Kingdom of Great Britain and Ireland.

This union, so favourable to the greatness of the British isles, produced but small results under the Stuarts; but when this family was driven from the throne in 1688, the United Kingdom, under the guidance of an aristocracy imbued with genius and ambition, entered on the path of prosperity which she still pursues. She has conquered the navies of France and Spain, inherited the possessions of the Portuguese and Dutch in Asia, colonized the half of North America, formed on the ruins of the Mogul Empire in India an empire of 180 millions of inhabitants; finally, during the long wars of the French revolution, she obtained military and political positions in all the seas, and has become the first commercial nation in the world.*

The population of the British isles is 29,935,404, of whom 21,210,020 are in England, 3,153,413 in Scotland, and 5,571,971

* On the 31st of December, 1865, the British Empire possessed 41,505 ships of commerce, measuring 7,344,250 tons.

in Ireland. Two-thirds are of Germanic race, with some admixture of French; the other third are of Gaelic race, and are mostly found in Ireland, Wales, and the highlands of Scotland. The Anglican Reformed religion is established in England and Ireland; it is professed by 10 millions of the population, composed of the majority of the English, and the minority of the Scotch and Irish; the Presbyterian religion is established in Scotland, and is professed by the majority of the Scotch, and it and the dissenting bodies, together comprise 9,500,000 inhabitants; finally, the Roman Catholic religion is professed by five-sixths of the Irish, and a minority of the English, numbering 9,500,000 followers. The exterior possessions of England comprise: in Asia, 137,900,000 inhabitants; in Africa, 1,004,000; in America, 4,448,000; in Australia, 1,350,000.

§ III.—GREAT BRITAIN.

It is the largest island in Europe, being 600 miles in length, by 320 at its greatest breadth; its superficial extent is about 89,644 square miles. Its form is that of a sort of isosceles triangle, of which the base rests on the Channel, and the height is from north to south. The water-parting is marked by a long and tortuous series of heights, which divides the island into three nearly triangular watersheds: the first looks south towards the channel, the second east towards the North Sea, the third west towards the Irish Sea. This line of the water-parting is not a continous chain, but a succession of low hills, of short groups, and of isolated peaks. In the south its height is from 600 to 1,000 feet; in the centre it rises as high as 2,000 feet; finally, in the north, under the name of the *Grampian* Hills, it occupies all the peninsula between the Moray Firth and the Tay, and its highest peak is *Ben Nevis*, 4,406 feet in height. Two considerable groups are given off from this water-parting: one on the west goes to form the mountains of Wales, the highest peak of which is *Snowdon*, 3,571 feet high; the other on the north, called the *Cheviot* Hills, runs in a direction from N.E. east to S.W., between the Tweed and the Solway Firth, and thus naturally divides the island into two parts, *England* on the south, and *Scotland* on the north.

These two parts, whose populations are so firmly united, differ

in physical aspect. England is not a very hilly country, except in its western part; it is moist and foggy, not very fertile, but wonderfully cultivated, studded over with patches of wood and bare heaths, opened up by broad valleys, and intersected by gently undulating plains; Scotland is a land of mountains and lakes, cut up by numerous indentations, not fertile, cold and healthy, hardly opened up by narrow and short valleys. The minerals in both countries are enormously abundant, especially coal, iron, lead, tin, and copper, and these are the sources of the power of Great Britain. These productions are readily conveyed to all parts of the island by upwards of 31,000 miles of roads, 12,800 miles of railways, and 4,000 miles of canals, twenty-one of which cross the water-parting. The English are proud, cold, and positive; they are high-spirited, interested in everything that is great, and they are essentially speculative and enterprising. The Scotch are more open and less egotistical, less trading, and more manufacturing; in no country is education more widely spread, or historical reminiscences more powerful. In both countries national pride is the ruling quality of the character and the source of their greatness.

England and Wales: length, 360 miles; greatest breadth, 320 miles; superficial extent, 58,320 square miles. Scotland: length, 270 miles; breadth, 190 miles; superficial extent, 31,324 square miles.

§ IV.—ENGLAND.

1.—SOUTHERN WATERSHED.

This watershed is bounded by a line of heights, which, running parallel to the south coast from the Land's End to the South Foreland, divides the waters of the English Channel from those of the Bristol Channel and the German Ocean. It is a district which owes its great fertility entirely to cultivation, and where smiling knolls alternate with barren heaths; it possesses numerous but unimportant streams; it is rich in mines, especially in its western part, *Cornwall*, where are the most productive tin and copper mines in Europe; lastly, its coast seems to have been formed expressly by nature for a great maritime power; fringed with chalk cliffs, deep, without reefs, it is indented by large bays that form excellent harbours, whilst the

opposite coast, that of France, is without any of these advantages, and has only difficult harbours, or such as tend to silt up with sand; accordingly England has accumulated on this sea arsenals and fortifications, her means of attack and defence; and in a length of 248 miles, she has not less than eight ports or fortified roadsteads, which may serve as arsenals or refuges to fleets of war. The chief capes are: *Land's End, Lizard Point, Beachy Head*, celebrated for Tourvill's victory over the English in 1690, and *North Foreland.*

Ports.—1. FALMOUTH, defended by two forts, in one of the best bays in the island.

2. PLYMOUTH, at the mouth of the Tamer, composed of three harbours, two of which are for commerce and one for war; the latter is the station of part of the English fleet; it is defended by important fortifications, a large citadel, and by a breakwater, which is a masterpiece. Opposite Plymouth lies DEVONPORT, which is the complement of Plymouth by its arsenal, docks, ship-building yards, magazines, &c. The two towns together contain 112,000 inhabitants.

3. DARTMOUTH, a good harbour protected by batteries, capable of receiving ships of war.

4. EXETER, a commercial port, at the head of an inlet formed by the Exe. To the south of the bay of Exeter (or West Bay) are those of *Teignmouth* and *Torbay*; the first celebrated for the landing of the French in 1690, the last for the landing of William of Orange in 1688.

5. PORTLAND ISLE, a prison for criminals who are employed in quarrying, it is surrounded by inaccessible rocks, defended by a fortress. By means of a breakwater 7,546 feet long, a roadstead has been made between the Island and Weymouth, which serves as an annex to Portsmouth.

6. SOUTHAMPTON, a large commercial town and mail packet station, at the mouth of the *Test.*

7. PORTSMOUTH, the chief naval establishment of the British Empire, its best harbour, and one of the strongest fortresses in Europe; it contains a magnificent arsenal, immense dockyards, a naval school, a school of naval architecture, &c. In the enormous roads of Spithead, lying between the Isle of Wight and the coast, 1,000 ships of war could ride at anchor.

8. Brighton, a large town of 77,000 inhabitants; celebrated as a sea-bathing place.

9. Newhaven, at the mouth of the Ouse.

10. Hastings, no longer of any importance as a port, has become a fashionable sea-bathing place; here William the Bastard landed in 1066, and conquered the English.

11. Hythe, once a seaport, but now dried up. Here is the principal School of Musketry for the British Army.

12. Folkestone, a fashionable watering-place and small harbour, chiefly used for the passage between England and Boulogne.

13. Dover, on the Straits of Dover, a fortified town, with a citadel, an entrenched camp, a not very spacious harbour; it is the place for crossing from England to Calais. An exterior harbour has been constructed there by means of two jetties 10,820 feet in length. Dover is the chief town of a small coast province, called the Cinq Ports, which includes Hastings, Hythe, Romney, Dover, and Sandwich, with eleven dependent towns. In the middle ages these ports were regarded as the principal in the kingdom; at first, because from them used to sail the flotillas of adventurers who went to plunder France; and in later times, because they were the most exposed to the reprisals of the French fleet, by which they were often burned. William the Conqueror and his successors granted them many privileges on condition that they should always maintain at their own cost a certain number of armed ships. These ports have almost all lost their importance; they are either silted up or little frequented.

On the coast we find: the *Scilly Islands*, 145 in number, six of which only are inhabited; the *Isle of Wight*, 155 square miles in superficial extent, very fertile, very healthy, and partly protected by inaccessible rocks; its chief town is Newport. It is defended by various works recently erected.

2.—EASTERN WATERSHED.

This watershed, broad on the south, narrow on the north, is generally not very fertile; large districts near the sea and the hills are barren, covered with marshes and sand; the climate is cold, and in some parts not healthy. The coast, which is liable to irruptions of the sea, is flat, sandy, intersected by drains and

marshes; it is indented by two gulfs, one of which is the *Wash;* it has a few islands. Three principal rivers furrow this watershed.

1. The *Thames* rises in the Cotswold hills, in Gloucestershire, flows from N.W. to S.E., runs by OXFORD, a celebrated university, up to which point it is often called the *Isis*, runs from west to east, receives the *Thame* which rises in the low hills of Buckinghamshire, washes WINDSOR, a royal castle, built by William the Conqueror, reaches LONDON, capital of the British Empire, the most populous city, with the greatest trade, in the world. It contains 3,067,000 inhabitants; and with the numerous villages which prolong its extreme quarters, it resembles a province, containing upwards of 330,000 houses, and covering more than 12,350 acres. In 1856, about 20,000 vessels entered or left it, measuring 4,800,000 tons. It lies at a distance of 50 miles from the sea, in a magnificent plain on both banks of the Thames, which forms there a superb channel, abounding in basins and covered with vessels to a length of 7 miles.—The river, which becomes a sort of arm of the sea, next washes DEPTFORD, arsenal and ship-building yards; GREENWICH (65,000 inhabitants), a hospital for invalided sailors, and an observatory where the English reckon their meridian; WOOLWICH, an immense and magnificent naval and military arsenal, ship-building yards, park of artillery, cannon foundry, artillery, and engineer school, &c; TILBURY, an important fortress defending the entrance to the Thames.—It acquires a breadth of several miles, and forms a true sandy gulf, where it becomes lost in the sea between the islands of *Foulness* and *Thanet*, after receiving the *Medway*.—This river, which comes from the south, passes by CHATHAM, a town well fortified by detached works and an enormous citadel, with a large arsenal, docks, ship-building yards, &c.; it ends at SHEERNESS, an important town, on account of its royal naval yards and its fortifications, which defend the entrance to the Thames and Medway.—The Thames is 200 miles long; it is navigable for 160 miles; the tide runs up it to 60 miles from the sea; ships of war can sail up as high as Deptford; and vessels of 800 tons can come into the port of London.

The Isle of *Thanet*, which forms the southern extremity of the mouth of the Thames, is celebrated for the landing of the Saxons

in 447; it is formed by the mouths of the *Stour*, on which lies CANTERBURY, a very famous town as being the seat of the archiepiscopal primacy of England.

In the kind of peninsula comprised between the mouth of the Thames and the Wash there are many streams, and we there find:—HARWICH, at the mouth of the Stour, with ship-building yards;—SOUTHWOLD, naval battle of 1666, won by the English over the Dutch;—YARMOUTH, at the mouth of the Yare, on which is NORWICH, a large manufacturing town of 74,000 inhabitants.

2. The *Ouse* flows from S.W. to N.E., washes BUCKINGHAM, BEDFORD, HUNTINGDON, birthplace of Cromwell, receives the *Cam*, which passes CAMBRIDGE, a celebrated university, and ends at LYNN REGIS, a port of commerce.

3. The *Witham* passes LINCOLN, and ends below BOSTON, a flourishing commercial port.

4. The *Humber* is formed by two rivers, the *Trent* and the *Ouse*. The Trent runs from south to north, has in its basin BIRMINGHAM, a manufacturing town, with 335,000 inhabitants, and passes near NOTTINGHAM. The Ouse runs from north to south, washes YORK, an archiepiscopal town, regarded as the capital of northern England; it has in its basin SHEFFIELD, a town with 180,000 inhabitants, renowned for its cutlery, and receives the *Ayr*, which passes near BRADFORD and through LEEDS, manufacturing towns, with 106,000 and 228,000 inhabitants. These two rivers united form the broad channel of the Humber, which ends below HULL, a good port, defended by a citadel and two forts, the mart of English trade with the north of Europe; pop., 98,000.

From the mouth of the Humber to that of the Tweed, we find the following ports on the coast:—1. SCARBOROUGH; 2, WHITBY; 3, MIDDLESBOROUGH and HARTLEPOOL on the Tees; 4, SUNDERLAND, important for its trade in coal; 5, NEWCASTLE (109,000 inhabitants), a port resorted to by about 10,000 ships; it is situated on the *Tyne*, which contains in its basin inexhaustible beds of coal, and the entrance to which is occupied by NORTH and SOUTH SHIELDS, and defended by the castle of *Tynemouth*; 6, BERWICK, a fortified town, famous in the wars between England and Scotland, at the mouth of the Tweed.

3.—WESTERN WATERSHED.

This watershed is narrow, hilly, and indented; the country is moist, fertile, healthy, covered with pasturages, and abounding in mines; the coast is tortuous and pierced by many bays, the principal of which are *Bristol Channel*, *Cardigan*, and *Lancaster bays*, and the *Solway firth*, it bristles with perpendicular cliffs, which throw out numerous capes.—The most remarkable river in this watershed is the Severn, whose almost circular and very fertile basin is enclosed on the east by the interior chain, and on the west by the Welsh mountains.

The *Severn* rises in the Welsh mountains, runs from north to south, describes a large arc of a circle, washes SHREWSBURY, WORCESTER, GLOUCESTER, forms a very wide mouth, and ends in the Bristol Channel. It receives on its left the two *Avons;* the first passes WARWICK; the second BATH, celebrated for its mineral waters, and BRISTOL, a large commercial port of 163,000 inhabitants.

A rectangular tract comprised between St. George's Channel, Lancaster Bay, the Bristol Channel, and the Welsh Mountains, seems naturally isolated from the main land, and formed a distinct political part of it; this is Wales, a hilly, unfertile, and picturesque country. Its narrow valleys, its numerous streams, its limpid lakes, give to it somewhat of a Swiss aspect; it is inhabited by the remnants of the Celtic race that would not submit to the Saxon yoke, and it had its own sovereigns until 1282, when it was conquered by Edward I. Minerals form its chief riches: the northern part produces annually 88,600 tons of lead, and its southern part 246,000 tons of iron. It contains several towns worthy of notice:—CARDIFF, which exports annually 150,000 tons of iron; MILFORD, at the head of a large and tortuous bay, which contains PEMBROKE, with naval ship-building yards, and is defended by three castles.—At the N.W. point of Wales, and separated from it by a narrow channel, is the island of *Anglesea*, 217 square miles in extent, formerly one of the sacred retreats of the Druids; it contains rich copper mines.

North of Wales we meet with only very short streams, owing to the propinquity of the interior chain; the most remarkable is the *Mersey*, whose basin resembles a vast workshop, so nu-

merous and so close together are the manufacturing towns; they are: ROCHDALE, BURY (birthplace of Sir Robert Peel), BOLTON, OLDHAM, ASHTON, &c., towns with populations of between 20 and 70,000, and with twice as many in their suburbs. Lastly, comes MANCHESTER on the Irwell, the chief manufacturing town in England; pop., 358,000. The Mersey forms a broad channel, and ends below LIVERPOOL, the second commercial town in Great Britain; its port containing 22 docks, receives 20,000 ships annually; its population is 484,000. The entrance to the river is protected by forts and batteries.

In the Irish sea midway between England, Scotland, and Ireland, lies the *Isle of Man*, rich in lead mines. It enjoyed a quasi-independent sovereignty until 1765, when it was formally annexed to the British crown; but it still possesses its own peculiar government.

§ V.—SCOTLAND.

1.—WESTERN WATERSHED.

This watershed is very narrow, fringed to the very coast by a mass of mountains, which seem to be hollowed out by the Ocean; pierced by many deep bays, presenting many long peninsulas and high capes; the numerous islands that fringe it seem to be broken off from the mainland, from which they are only separated by channels; the valleys are short and narrow; the country is by no means fertile, but populous. Among the gulfs we remark the Firths of *Solway* and *Clyde*; the others are only a kind of sea lakes.

The Firth of Solway only receives some unimportant streams, which do not pass any very remarkable places.

The Firth of Clyde receives the *Clyde*, which rises in the *Gana Hill* (2,190 feet), and other parts of the range which connects Lowther Hill (2,377 feet) with Queensberry (2,285 feet) and Clyde Law (1,789 feet). This river runs from S.E. to N.W. in a tortuous, narrow, and mountainous basin, forming one of the most picturesque and populous districts in Europe; it washes GLASGOW, a large, manufacturing, and very flourishing city of 432,000 inhabitants;—RENFREW, below which the river receives a large canal, which begins in the Firth of Forth, thus connecting the two seas;—DUMBARTON, with a strong castle at the confluence of the Leven, an arsenal and ship-building yards;

it becomes a broad channel, and ends below GREENOCK, a very flourishing port, the seaport of Glasgow.

The remainder of this watershed becomes ever narrower, is indented by a great number of lakes and small streams, but contains no remarkable place. The same may be said of the large islands that lie near the coast.

To the west of this watershed lies the group of the *Hebrides*, or *Western Islands*, consisting of nearly 300 islands, 80 of which are inhabited; they are moist, rocky, and barren.

2.—EASTERN WATERSHED.

This watershed presents a totally different aspect; although the land is still hilly and broken, it is much broader, is only opened up by the two great gulfs, the Moray Firth and the Firth of Forth; it has few islands on its coast, which is generally sandy; its valleys are broad, low, and fertile, and its rivers numerous.

1. The *Tweed*, which separates Scotland from England, rises in the Hartfell (2,651 feet), behind the Clyde, flows from west to east in a valley abounding in meadows and woods, washes PEEBLES and receives the *Ettreck*, which washes SELKIRK, famed for the defeat of Montrose, and, after passing KELSO, ends at Berwick.

2. The *Forth* rises in Ben Lomond, flows from west to east through a very fertile country, washes STIRLING, a town of great importance on account of its castle, which commands the passage of the river; passes near CLACKMANNAN, below which it becomes very broad, and receives the canal from the Clyde, on the banks of which lie: CARRON, containing the largest artillery forges in Europe;—FALKIRK, battle of 1746, between Prince Charles Edward and the English. After this the Forth becomes very broad, expanding into a great gulf, on the south side of which lies EDINBURGH, the capital of Scotland, with an old castle, and a population of 175,000; its port is LEITH, which contains ship-building yards.

3. The *Tay* rises in the Perth mountains, flows from N.W. to S.E., through a valley rich in cornfields and pasture-lands, washes PERTH, and ends below DUNDEE, a flourishing, commercial port (pop., 90,000), by a large mouth.

4. The *Dee* flows from west to east, and ends at ABERDEEN

(pop., 73,000), a port containing an important part of the mercantile marine of Scotland.

5. The *Spey* flows from S.W. to N.E., through the county of Elgin; it has a large channel obstructed by rapids, and ends in the Moray Firth.

6. The *Ness* rises in the Inverness hills, flows from S.W. to N.E., through Loch Ness, and ends in the Moray Firth below INVERNESS, near which lies CULLODEN, battle of 1746. Loch Ness is connected with Loch Lochy by the Caledonian ship-canal, which thus joins the two seas. This junction is defended at its issue into the Atlantic by *Fort William*, and at its issue into the Moray Firth by *Fort George* and *Fort Rose*. On Loch Ness is *Fort Augustus*. These four forts are of no importance since the intimate union of Scotland and England.

At the N.E. of the Moray Firth, the watershed narrows, and contains nothing remarkable, it ends at Duncansbay Head.—To the north of this point, and separated from the mainland by the Pentland Firth, is the group of the *Orkneys*, composed of thirty barren islands covered with rocks and marshes.—To the north of the Orkney Islands is the group of the *Shetland* islands, presenting similar characters, and consisting of eighty-six islands, whose inhabitants are mostly fishermen; their climate is the moistest in Europe.

§ VI.—IRELAND.

This island, separated from Great Britain by St. George's Channel, the Irish Sea, and the Northern Channel, is 300 miles in length by 180 in breadth, with a superficial measurement of 32,513 square miles. It is generally low and marshy in the centre, hilly in the north and south, and to separate its waters there is only a confused series of heights, seldom exceeding 3,000 feet in elevation. The numerous bays with which it is indented present excellent harbours, fourteen of which can admit ships of the line; its coasts are safe, and the surrounding sea very deep. The soil is good and fertile, the bogs and lakes are numerous; the principal products are cereals and cattle; but the potato constitutes almost the sole food of the population, which is very poor and overabundant. Ireland, in spite of the resources of its soil and the qualities of its people, owing to its

obstinate attachment to Catholicism and its perpetual disturbances, in spite of equal liberty and the same government as the rest of the United Kingdom, is a constant thorn in the side of Great Britain.

This island is divided into two watersheds, one on the east, the other on the west; Mizen Head and Malin Head are the extremities of the water-parting line.

1.—EASTERN WATERSHED.

This watershed contains numerous bays, rivers of no importance, some mountains, few morasses, populous and fertile valleys, iron, copper, and tin mines.

We find no town of importance in the interior, but on the coast we remark: 1. KINSALE, a port much frequented in former times, defended by a fortress.—2. CORK, a very good port at the head of a small bay, defended by several forts, capable of containing the whole navy of England; it is closed by *Great Island*, on which stands COVE or QUEENSTOWN, defended by forts, the station of a part of the British fleet, with ship-building yards; here James II. landed in 1688. Cork has a population of 78,000. —3. WATERFORD, a commercial town at the mouth of the *Suir*, in a large bay defended by the old fort of *Strongbow* and the citadel of DUNGMORE.—4. WEXFORD, a good port at the mouth of the *Slaney* —5. DUBLIN, capital of Ireland, at the mouth of the *Liffey*, pop., 360,000; its only defences are four fortified barracks. The harbour of KINGSTOWN is the mail packet station, connected with Dublin by a railway.—6. DROGHEDA, near the mouth of the *Boyne*, on which James II. was defeated by William of Orange. —7. CARRICKFERGUS, a stronghold where William III. landed in 1690, and which was taken by the French in 1760.—8. BELFAST, a busy commercial town of 119,000 inhabitants, with a good harbour.—9. LONDONDERRY, a fortified town with a good harbour at the head of Lough Foyle, famous for the siege of 1689.

2.—WESTERN WATERSHED.

This watershed is chiefly remarkable for the great number of immense bays it contains, and which form sea lakes running far into the land. The chief of these are:—

1. Lough *Swilly*, which could hold fifty ships of the line.

The French fleet intended to land here in 1798; but they were beaten by an English fleet in front of *Tory* island.

2. *Donegal* Bay receives the *Erne*, which passes ENNISKILLEN, a fortified town, at the entrance to Lough Erne.

3. *Sligo* Bay contains SLIGO, a small port.

4. *Killala* Bay is famous for the landing of the French in 1798; it receives the *Moy*, which passes CASTLEBAR, battle of 1798, won over the English by the French and Irish under General Humbert, who, however, soon after surrendered at Ballinamuck.

5. *Galway* Bay receives the waters of Lough *Corrib*, which ends at GALWAY, a good port, defended by a fortress.

6. *Shannon* Bay, the mouth of the *Shannon*, the largest river in Ireland. It rises in Lough *Allen*, flows from north to south through several lakes, washes ATHLONE, a fortified town, at the issue of Lough *Ree*, receives the Grand Canal from Dublin, which ends in the Liffey, and hence joins the two seas; it passes LIMERICK, a large commercial town of 44,000 inhabitants, turns westwards in a wide tortuous channel, obstructed by islets, and ends between Loop Head and Korry Head; its course is about 125 miles in length.

7. *Bantry* Bay, one of the largest and safest on the Atlantic, is defended by the two fortified isles of *Bear* and *Whiddy*; on its south side lies BANTRY, famous for the landings of the French in 1689 and 1796.

§ VII.—STATISTICS.

SUPERFICIAL EXTENT.	POPULATION.	ARMY.	NAVY.	REVENUE.
United Kingdom. 122,550 square miles.	29,307,199 inhabitants.	Regulars . 138,000 Cavalry . . 12,800 Yeomanry . 14,600 Militia. . . 128,000 Volunteers. 165,000	497 ships.	£68,372,000
—	—		51,990 sailors.	—
British Possessions. 4,127,232 sq. miles.	British Possessions, 154 millions.	INDIAN ARMY. 178,600	15,860 marines.	DEBT. £781,500,000

Possessions.—In *Asia*: the greater part of Hindustan, Ceylon, Aracan and Pegu, the Straits Settlements, Labuan, and Hong Kong, &c.—In *Africa*: the establishments of Gambia, Sierra Leone, and Guinea, the colonies of the Cape and Natal, the islands of St. Helena, Ascension, Mauritius, &c.—In *Oceania*: Australia, Tasmania, and New Zealand.—In *America*: almost all the continent and the islands from the St. Lawrence river to the Arctic pole, the Bermudas, the Bahamas, Jamaica, the greater number of the Windward and Leeward Islands, Honduras, British Guiana, Falkland Islands, &c.

BOOK V.

ASIA.

Asia is bounded on the north by the Arctic Ocean, on the east by the Pacific, on the south by the Indian Ocean, on the west by the Red Sea, the isthmus of Suez, the Archipelago, the Black Sea, the Caucasus, the Jaik, and the Oural and Poyas mountains.*

It is comprised between N. lat. 2° and 78° and E. long. 26° 20′ and W. long. 175° 40′. Its greatest length, from East Cape to Cape Bab-el-Mandeb, is about 6,775 miles; its greatest breadth, from North East Cape to Cape Romania, is about 5,324 miles. It is the largest division of the world; its superficial measurement is about 17,327,000 square miles; its population about 798,600,000.

Its rivers have three principal recipients: the Arctic, Pacific, and Indian Oceans; and two secondary recipients, the Mediterranean and the Caspian and Aral Seas.

DIVISION OF THE SEAS.

1. *Arctic Ocean.* It forms the gulfs of *Kara* and *Obi*, capes *Jelanii*, *Sieverovostochnii* (North East), the most northern part of the ancient continent; Cape *Sviatoi* (Holy), and the islands of *Novaïa Zemlia* and *New Siberia.* This sea is almost constantly frozen over. It receives the Obi, the Yenissei, the Lena, &c.

2. *Pacific Ocean.* It forms along the Asiatic coast a multitude of gulfs, the chief of which are: *Sea of Kamtchatka*, *Sea of Okhotsk*, *Sea of Japan*, the *Eastern Sea* which forms the *Yellow* and *Blue Seas*, the *China Sea* which forms the Gulfs of *Tonquin* and *Siam.* The principal peninsulas are: *Kamtchatka*, *Corea*, *Cambodia*, *Malay*; the islands: *Kuriles*, *Saghalien*, *Japan*, *Loo-Choo*, *Formosa*, *Hainan*, and all the large and small islands composing Oceania. It receives the Saghalien (Amour), the Hoang-Ho, the Yang-tse-Kiang, the Cambodia (Menam-Kong),

* See note, p. 37.

3. *Indian Ocean.* It forms the *Bay of Bengal*, the *Arabian Sea* (Mare Erythræum), the *Persian Gulf*, and the *Red Sea;* the large peninsulas of *Hindustan* and *Arabia;* Capes *Negrais*, *Comorin*, *Ras-al-Had*, *Bab-el-Mandeb;* the islands of *Ceylon*, the *Maldives*, and the *Laccadives.* It receives the Irawady, the Ganges, the Indus, and the Euphrates.

4. *Mediterranean*, *Archipelago*, and *Black Sea.* These seas form bays of no great depth, include between them the peninsula of *Asia Minor*, and their only remarkable cape is that of *Baba*, the most westerly point of Asia; they contain the islands of *Cyprus*, *Rhodes*, and the eastern part of the Archipelago, and receive some unimportant streams.

5. *Caspian Sea.* (See Europe, p. 48.)

§ II.—DIVISION OF THE LAND.

The *Oural* Mountains, near the source of the Jaik, have a branch running S.E., separating the waters of the Obi from those of the Caspian Sea; they join the range of the *Altai*, which runs from west to east, its north watershed sloping towards the Arctic Ocean, and its south watershed becoming lost in immense plateaus. This chain has a branch running N.E. into the *Jablonnoi* hills, which end in East Cape; and near the source of the Amour there runs southward a range of mountains inclining towards the west, forming what are called the *Chinese Mountains*, the east watershed of which slopes towards the Pacific, whilst its west watershed stretches out in groups and plateaus into the interior of Asia. From the plateaus of *Kokonor*, the central nucleus of the Chinese mountains, there runs from east to west a long semi-circular chain, the centre of which is called Himalaya, and contains the highest points in the world; its south watershed slopes towards the Indian Ocean, and its north watershed loses itself in immense plains. It extends as far as the south of the Caspian, and turns north-west to join the *Caucasus.*

Thus, as its almost equal dimensions would lead us to infer, Asia has the form of a sort of truncated quadrangular pyramid, the N. face of which is directed towards the Arctic Ocean, the E. face towards the Pacific Ocean, the S. face towards the Indian Ocean, and the W. face towards the Mediterranean. The base of the truncated part is occupied by an immense plateau, which

is divided into two others separated from north to south by the *Bolor* and *Thian Shan* mountains: 1, Plateau of the Caspian and Aral seas; 2, Central or Chinese plateau.*

Thus the great physical divisions of Asia are: 1, *Northern* or *Arctic Ocean watershed;* 2, *Eastern* or *Pacific watershed;* 3, *Southern* or *Indian Ocean watershed;* 4, *Western* or *Mediterranean watershed;* 5, *Plateau of the Caspian and Aral seas;* 6, *Central* or *Chinese plateau.*

§ III.—HISTORY OF THE GEOGRAPHY OF ASIA.

Asia is the most remarkable of the divisions of the globe, not only on account of its geographical position, its extent and fertility, but also on account of its history; it seems to have been the part of the world first peopled; from it the great religions proceeded; it has been the seat of the greatest empires. But owing to its physical conformation, the inhabitants of its four great watersheds having had an isolated existence, it is only the history of its western peoples that interests us, as from them our western civilization originated; that of the peoples of the east and south is foreign to us, that of the peoples of the north is unknown to us.

In western Asia, the Assyrians are the first great people of whom we have any information; they established an immense empire, the centre of which was formed by the basins of the Tigris and Euphrates, but the boundaries of which are uncertain. After lasting fourteen centuries, this empire was destroyed (747 B.C.), and out of its ruins arose the kingdoms of Media, Babylonia, and Nineveh, which lasted 250 years. Then the Persians, a small nation located near the Erythræan sea, succeeded in subduing these kingdoms and in founding (537 B.C.) a great monarchy, the boundaries of which were: on the west, Egypt, the Mediterranean, and the Pontus Euxinus; on the north, the Caucasus, the Caspian Sea, and the Jaxartes; on the east, the Indus; on the south, the Erythræan Sea, the Persian Gulf, and Arabia. At that period western Asia was the most powerful and the most civilized portion of the world. The Persians endeavoured to extend their conquests into Europe; but they encountered, at the very entrance to that hitherto unknown country, a nation

* See note, p. 37.

which not only repelled their invasion, but which put an end to the greatness of Asia, and gave the highest position to Europe. The Greeks, under Alexander, overthrew the Persian rule, carried western civilization into Asia, and founded there (328 B.C.) the first European empire. This empire, which had nearly the same limits as that of the Persians, became divided into several states on the death of Alexander; the two chief were: the kingdom of Syria, which included almost all western Asia, and had Antioch for its capital; the kingdom of the Parthians, which extended from the Tigris to the Indus, and partially renewed the dominion of the Persians.

The Romans (64 B.C.) overthrew the kingdom of Syria, annexed it to their empire, and extended their conquests as far as the Tigris and Araxes; their Asiatic possessions formed the provinces of Asia Minor, Syria, and Armenia, which formed part of the Western Empire. They met the Parthians on the Tigris and Euphrates, and then terrible wars commenced between these two peoples, which was not terminated until the arrival of the Arabs.

Up to this period the Arabs had remained strangers to the revolutions of Asia; the word of Mahomet caused them to emerge from their deserts; they conquered Syria, overthrew the Eastern Empire, upset that of the Parthians (651), subdued all the countries as far as the Jaxartes and Indus, and founded the monarchy of the Caliphs, whose capital was Baghdad. After three centuries the Caliphate fell into decay, and sought the aid of the Turks, a Tartar race from the regions east of the Caspian and beyond the Oxus; but the Seljuk Turks usurped all the power of the Caliphs, continued the conquests of the Arabs in Asia Minor, and thus founded (1071) an immense empire, which split up in 1092. The two most powerful states that arose on its ruins were that of the Sultans of Iran or Persia, and that of the Sultans of Roum or Asia Minor. This latter was overthrown by the Crusades (1099); it lost Palestine and Syria, where Christian and Mussulman states were founded at the same time, which waged furious war against one another. Saladin, founder of the Ayoubite dynasty, united together the greater number of these Mussulman states (1171), ruled over Syria, Mesopotamia, part of Arabia and Asia Minor, and upset

the Christian settlements. His empire was divided amongst his sons, but the States they formed were overthrown (1250) by the Mamelukes, the masters of Egypt (see History of the Geography of Africa), who drove the Christians out of Palestine and extended their rule all over Syria.

At this period the Mongolian hordes inhabiting the north of China began their movement under the leadership of Genghis Khan; they overthrew the Tartar kingdoms of central Asia, took possession of northern China, whence they drove the Kin dynasty founded by the Mantchous in 1115, conquered Persia; they encountered the Kharismians who ruled over the plateau of the Caspian, in Media and Armenia, defeated them in a great battle at Otrar, and pushed their conquests as far as the Euphrates and the Caucasus. The sons of Genghis continued his work; they destroyed the Caliphate of Baghdad (1258), which had still a nominal existence; conquered southern China, which then for the first time came under foreign rule; completely ruined the dominion of the Sultans of Roum; penetrated into Russia, Poland, Hungary, and only stopped at the Danube. It was under Kublai, the grandson of Genghis (1260–1294), that the power of this empire, the largest that was ever known, culminated. At that time it extended from the Indian Ocean to the heart of Siberia, and from the Pacific to Asia Minor, the Danube, and the Vistula. China was the residence of the supreme Khan, who, in addition to a number of small tributary Khans in Tonquin, India, Siberia, &c., had three great subaltern Khans in Kapchak, Persia, and Zagatai. The dominion of the Mongols of China terminated in 1368, when the Chinese expelled them and founded the national dynasty of the Mings, which lasted till 1644. The history of the Kapchak Mongols belongs to Russia. The dominion of the Zagatai Mongols, which reached from the Oxus to the Indus and into central Asia, fell into decay after a century. Timour or Tamerlane, one of the emirs of this empire, took advantage of this decay to found an independent state in the trans-Oxian country; he soon subdued the other emirs, destroyed the Zagatai dynasty, overthrew the sway of the sons of Genghis in Persia, conquered Thibet, India, &c., and turning his arms to the West, encountered in Asia Minor a new power—that of the Ottoman Turks.

We have seen that the rule of the Roum sultans was overthrown by the Mongol invasion; conspicuous among the Turkish emirs who seized on their spoils was Othman, who took possession of Bithynia, attacked the Greek empire, made Prusa his capital, and subjected all the Turkish hordes of Asia Minor. His successors extended their conquests into Europe, and one of them, Bajazet, was about to take Constantinople, when he was obliged to return to Asia to fight Timour: he was conquered (1402), and the rule of the victorious Mongol extended to the Mediterranean.

After his death his empire was split up into several States: the two principal were Persia, where the successors of Timour reigned until 1506, when they were overthrown by the Sophis; and India, whose sovereigns were called Great Moguls. The Ottomans recommenced their victorious march towards the west, took Constantinople (1453), wrested Syria from the Mamelukes, conquered the provinces of the Euphrates and part of Arabia (1515–1520), and thus became the ruling power of Western Asia.

Then the Europeans appeared in Asiatic seas. The Portuguese took Ormuz, by which they became masters of the Persian Gulf; Goa, which commanded Malabar; Ceylon, which opened up the Bay of Bengal; Malacca, the key of the straits of the Indian Archipelago. But Portugal having fallen under the dominion of the Spaniards, the Dutch, who were at war with the latter, took advantage of this circumstance to seize (1603–1663) the Portuguese establishments; they founded Batavia, penetrated to Japan, obtained possession of the Moluccas, &c. The English made their appearance in Asia during the reign of Elizabeth, when the East India Company was founded; their power dates from 1661, when they took possession of Bombay; but they did not obtain the preponderance in India until the middle of the eighteenth century, at the expense of the Dutch, the Portuguese, and lastly the French, who had also made some settlements in this country. Whilst the western nations of Europe were thus introducing themselves into Asia by sea, a northern nation, which had but newly sprung into existence, Russia, penetrated into it by land, conquered without difficulty all the watershed of the Arctic Ocean, and thus came in contact with the three empires of Turkey, Persia, and China.

The empire of the Great Moguls fell rapidly into decay; Thamas Kouli Khan, who had just driven the Sophi dynasty off the Persian throne, whose place he took (1736), marched into India, conquered it, and left only the empty title to the descendants of Tamerlane. After him the soubahdars and nabobs (viceroys and governors) made themselves independent and entered into alliances against the Great Mogul with the European powers, particularly with the French. Several warlike nations—such as the Mahrattas, the Afghans, the Sikhs—invaded the country, and disputed the inheritance of the Moguls with the new sovereigns of Cabool, the Deccan, &c. The British interfered in these quarrels, fought for the Great Mogul, and obtained from him, in 1760, Bengal, Orissa, and Bahar. A very powerful soubahdar, Hyder Ali, seized on Mysore, and allying himself with the French, made himself a formidable power in Hindostan. The British joined the Mahrattas and the King of Deccan in order to overthrow him; and in 1790 Tippoo Sahib, son of Hyder Ali, was forced to give them the half of his states; he again took up arms when the French conquered Egypt, but he was vanquished and killed. Then the British, having become the ruling power in India, imprisoned the Great Mogul in his palace, attacked the Mahrattas, whom they conquered in 1818, rendered tributary to them the Deccan, Rajpootana, and Sinde, broke in upon Burmah, and thus founded their immense Asiatic empire.

During this period, several revolutions had agitated the other parts of Asia: China had been subdued by the Mantchous in 1644, and had extended its frontier as far as the Himalaya and the Bolor mountains; an empire of Annam had been made by a union of the kingdoms of Cochin China, Tonquin, Laos, &c.; a Burmese empire had been created by the conquest of the kingdoms of Ava, Pegu, Martaban, &c.; finally, the two chief Mussulman powers of Asia, to wit, Turkey and Persia, fell into decay, and suffered their northern frontiers to be broken in upon by Russia, which at the present time threatens to absorb them both. Moreover, Persia lost her eastern provinces after the death of Thamas, at which period the warlike tribes of the Afghans made of these provinces the nucleus of a great empire, which extended beyond the Indus. But this empire did not last half-

a-century; it was subdivided into several states: Cabool, Herat, Beloochistan, at the present time a prey to frequent revolutions, and in danger of falling under British rule. Most of these states seem now to await their fate from Europe, for Asia, which formerly exercised so much influence on the European part of the globe, which seems to be naturally a small appendage to it, finds itself now overwhelmed by the immense superiority of the latter. Russia and Great Britain press upon both its flanks, and force their civilization on one-half of its surface; on the north, the south, the west, Europe infiltrates itself into Asia; even China and Japan have quitted their immobility, and have been opened up to European commerce.

The principal races inhabiting Asia are: 1. The Ouralians or Finns, subdivided into Ostiaks, Samoiedes, &c.; they inhabit Russian Asia.—2. The Tungusians, subdivided into Tungusians, inhabiting Russian Asia, and Mantchous, who inhabit a part of China.—3. The Chinese, who inhabit a large part of eastern Asia; they are the most numerous race; the Annamites, who inhabit Tonquin and Cochin China, the Siamese, and even the Japanese seem to be mere subdivisions of the Chinese race. —4. The Burmese, who occupy a large part of the peninsula of Malacca.—5. The Thibetians, who inhabit the plateaus of Thibet.—6. The Hindoos, subdivided into Hindoos, Mahrattas, Sikhs, &c.—7. The Persians, subdivided into Bokharians, Afghans, Kurds, Beloochees, &c.—8. The Arabs, who occupy almost all western Asia.—9. The Turks, subdivided into Osmanlis, the ruling people of the Ottoman empire; Usbecks, the ruling race in independent Turkestan; Turcomans, the ruling race of Persia; Kirghis, vassals of the Russians and Chinese, &c.

The religions of Asia are: idolatry in Russian Asia; Buddhism and the religions of Fo, of Sinto, of the spirits, in eastern and central Asia; Brahmanism in India; Islamism in western Asia. Christianity only prevails in the European colonies.

The population of Asia amounts to about 798,600,000 inhabitants.

§ IV.—WATERSHED OF THE ARCTIC OCEAN.

This watershed is formed by the east side of the Poyas and Ourals, the north side of the Altai, and the west side of the

Jablonnoi and Stanovoi; its two extreme points are Cape Waigatz and East Cape.—Length, 3,700 miles; breadth, 1,000 to 1,700; superficial extent, 5,405,400 square miles.

Mountains.—The *Poyas* and *Oural* mountains present less the appearance of a great chain than that of a lofty plateau, from 4,600 to 5,250 feet in height, on which are scattered hills of from 1,300 to 1,600 feet higher; they extend to a length of 1,000 miles, and their breadth is from 50 to 100 miles. They are famed for their gold and platina mines, the richest of the old continent. Near the sources of the Oural and Tobol, there runs S.E. a long plateau, with isolated small mountains and low hills, which rise abruptly from the plain: it is called *Oulouk Tagh* as far as the Ischim, and from the Ischim *Alghinskoi*; it runs through the country of the Kirghis, and separates the waters of the plateau of Turkestan from those of the Obi.—Near the sources of the Irtisch, the chain divides into two branches, which run from west to east, and only unite about the sources of the Amour; the northern one is very rugged, and composed of confused masses from 1,000 to 2,000 feet high; it cuts the courses of the Yenissei and Selingha, and is called *Little Altai;* the southern one is merely composed of the advanced terraces of the central plateau, forms the enclosing belt of the watershed, and is called the *Great Altai.* Between them they enclose a large plateau, which, in addition to several inland lakes, contains the sources of the Yenissei, the Selingha, &c., and whence larger branches are given off, the chief of which are: 1, *Kolyvan* hills, between the Irtisch and the Obi; 2, *Sayan* hills, between the Yenissei and the Angara; 3, *Selinghinsk* hills, which form the eastern belt of Lake Baikal. These three chains are famous for their gold, silver, and copper mines.—About the sources of the Amour the chain turns N.E., is prolonged between that river and the Lena under the name of *Jablonnoi* mountains, which form a continuous series of mountains, takes the name of *Aldan* between the sea of Okhotsk and the Lena, turns still more directly N.E., and, under the name of *Stanovoi*, traverses the whole of the extremity of Asia, terminating at East Cape.

General Aspect.—Watered by large rivers running parallel to one another, whose enormous volumes of water roll through marshy deserts, wild forests, and immense steppes, the region is

colder than is justified by its latitude, on account of the winds from the polar regions, which there is nothing to stop; it is covered with ice during nine to ten months; barren, uncultivated, its sole wealth consisting in pastures, timber, and metals, it is inhabited by wretched and savage tribes, and by half-a-million of Europeans, scattered over this immense country, of which they are the rulers, and where they have introduced the civilization and luxuries of the west into a few small towns.

Coasts.—They are deeply indented, fringed alternately with rocks and marshes, open to navigation for two months every year. The islands are uninhabited, and always frozen: those of *Novaia Zemlia* contain volcanoes; those of *New Siberia* are remarkable for the enormous quantities of fossil remains of elephants, rhinoceroses, and mammoths which they contain.

Rivers.—1. The *Obi* rises in the Altai mountains, flows generally from S.E. to N.W., washes BARNAUL, KOLYVAN, NARYM, and SURGUT, and ends in the Gulf of Obi.—It receives: 1, The *Tom*, on the right, which passes TOMSK, a large commercial town; —2, The *Irtisch*, on the left, a river as large as the Obi, which rises in the Great Altai, runs through Lake Zaisian, has its banks fringed with a long series of small fortresses; it washes SEMIPOLATINSK and OMSK, a regularly fortified town, the centre of the Russian administration over the Middle Horde of the Kirghis; it then receives the *Ischim*, a stream which flows among the hills occupied by the Middle Horde of the Kirghis, and which is defended by the fortress of PETROPAVLOSK; finally it washes TOBOLSK, capital of Western Siberia, lying at the confluence of the *Tobol*; population, 20,000.—The length of the Obi is 2,240 miles. Its basin is occupied by the hordes of the Kirghis, Ostiaks, and Samoiedes. The Kirghis are nomadic shepherds, of Tartar race, under the government of Russia; the Ostiaks are a savage, weak, wretched, and pagan people; as to the Samoiedes, they cover with their scattered tribes the borders of the Arctic Ocean from the Mezene to the Lena.

2. The *Yenissei* rises in the plateau of the Altai, flows generally from south to north, washes KRASNOIARSK, YENISEISK, TURUKHANSK, and ends by a broad gulf. It receives: 1. The *Angara*, a river larger than itself, which issues from Lake *Baikal*.—This lake is 320 miles long by 45 broad; it is

remarkable for its size, the beauty of its environs, and the veneration in which it is held by the inhabitants of the country; it receives the *Selingha*, which passes near KIAKTA, the principal mart of the commerce between the Russian and Chinese empires. —On issuing from the lake, the Angara washes IRKUTSK, capital of eastern Siberia, through which passes the commerce of Russia with China, a flourishing and fortified town; population, 28,000. —The Yenessei is 2,100 miles in length; its right bank is inhabited by the Tungusians, a wild and nomadic Tartar race; its left bank by the Ostiaks; the lower part of its basin by the Samoiedes.

3. The *Lena* rises in the northern belt of Lake Baikal, its upper basin is peopled by the Tungusians; it flows from S.W. to N.E. as far as YAKOUTSK, the only town in these savage regions; then from south to north; it runs through the country of the Yakoutsks, receives the *Aldan*, and ends among a number of islands opposite the archipelago of New Siberia.

Political Divisions.—The northern watershed belongs almost entirely to the Russian empire, and is so far divided for administrative purposes into two general governments (Western Siberia and Eastern Siberia), one province and several districts.

§ V.—WATERSHED OF THE PACIFIC OCEAN.

This watershed is formed by the southern slope of the Stanovoi and Yablonnoi mountains and by the eastern slope of the mountains of China, Tibet, Siam, and Malacca. Its two extreme points are East Cape and Point Romania.

Mountains.—The *Stanovoi* mountains are remarkable for the large branch they throw off southwards, which forms the framework of the peninsula of KAMTCHATKA; this branch has very high peaks, and contains frightful volcanoes: that of *Klutchers-kaia* is 16,512 feet high.

It seems (for the orography of Eastern Asia is very obscure) that a mountain range runs off from the Yablonnoi hills near the source of the Olekma (a tributary of the Lena) under the name of *Khingan* Mountains, and crosses the Amour near the place where the two streams join to form this large river; that this range of mountains runs from north to south, dividing the desert of Shamo from the streams which run either into the Sea

of Okhotsk or into the Yellow Sea; that near the source of the Pei Ho, and at the great elbow formed by the Hoang Ho, where it is crossed for the last time by the Great Wall of China, this same range of hills runs west under the name of *Ala Shan*, skirts the Hoang Ho, and lastly is connected by several groups of hills with the highland province of *Koko-nor*. This region is a chaos of mountains, a sort of Switzerland, covered with snowy peaks, large lakes, and the sources of rivers. Koko-nor is bounded on the south by Tibet, from which it is separated by the eastern part of the great *Kuenlun* range. This range extends westward along the northern edge of the lofty plateau of Tibet, and joins the *Tsungling* mountains, which separate the upper valley of the Indus from the Yarkand basin. Between Koko-nor and the Himalaya range, a vast and almost unknown system of lofty mountains, including the *Yun-ling* range, forms the frontiers of Eastern Tibet and Western China, through which are breaches for the passage of the rivers that rise in the Tibetan table-land; amongst these breaches we may notice those through which the Yang-tse and Sanpu flow, because between these two rivers runs the chain that separates the watershed of the Pacific from that of the Indian Ocean. This chain, further south, runs in the form of a very narrow ridge between the Cambodia and Menam on the one side, and the Saluen on the other, and forms the framework of the peninsula of Malacca as far as Cape Romania.

A mountain range, more than 7,400 miles in length, must send off into the interior of the watershed which it encircles a great number of chains. The following are the most remarkable:—1, from the Khingan, near the desert of Barin, there runs eastwards, between the Amour and the Yellow Sea, a long chain that bifurcates on approaching the sea; the southern branch forms the peninsula of Corea; the northern branch runs along the coast of Mantchouria as far as the mouth of the Amour.—2. Between the Hoang-Ho and the Yang-tse-Kiang runs the chain of *Yun-ling*, which forms the eastern declivity of the plateaus of Koko-nor and Tibet. From it the confused masses of the *Pe-ling* extend eastward between the two great rivers. The Yun-ling and Pé-ling are so large that they compel the two rivers to flow, the one to the north, the other to the

south, separating them 1,000 miles from one another; towards the sea they slope down to a plain, and allowed the two rivers to approach one another, to be united by canals, and to terminate till lately at only 100 miles from one another.*—3. Between the Yang-tse-Kiang and the Cambodia, a very narrow ridge, which runs first from north to south, then, about Yun-nan, divides into two branches; one of which runs from west to east, between the Yang-tse-Kiang and the China Sea, along the coast of Quang-tong and Fokien: this is the most rugged and lofty part of Eastern China; the other trends southwards, between the Cambodia and the Gulf of Tonquin.

General Aspect.—This watershed, having its extreme points close to the Arctic circle and the Equator, must present climates, productions, and physical characters too diversified to admit of being generalized; still, we may remark the mass, the extent, and the confusion of the mountains, the almost complete absence of steppes and marshy plains, and lastly, the peculiarity which is met with throughout the greater part of Asia, *viz.* that the rivers rise in the central plateaus and open for themselves a passage through the mountains which bound these plateaus, in order to flow off through the watershed.

Coasts and Islands.—The coasts are generally precipitous, except at the mouths of the rivers, they are indented by numerous gulfs, of which the principal have been already mentioned, and are fringed for 3,700 miles by an uninterrupted chain of large and small islands. Between these islands and the continent is a long series of dark and stormy mediterranean seas, into which open many channels connecting the two parts of this eastern world, isolated from the rest of the earth, where we find an immense population living under laws and a civilization of the highest antiquity. It is at Cape Lopatka, the most southern point of Kamtchatka, that this long series of islands commences, that only terminates at the straits of Malacca. The first group is called *Kurile* islands, thirty-three in number; the northern ones nominally belonging to Russia, the southern ones to Japan, and are very sparsely inhabited; they enclose in the

* About the year 1855, the Hoang-Ho burst through its northern bank near the city of Kaifung in Honan, and now empties itself into the Gulf of Pechili.

sea of Okhotsk, *Saghalien* or *Tchoka*, a large, wild, unexplored island belonging to Russia, and they join the archipelago of Japan.

This archipelago consists of three chief islands, *Yesso*, *Niphon*, and *Kiusiu*, fertile, highly cultivated, abounding in mineral wealth, and containing volcanic mountains, 14,000 feet high.—The inhabitants of Yesso are barbarians, their chief town is MATSMAI, a flourishing port, with a Japanese fortress. Niphon is 750 miles in length by about 150 in breadth; its chief city is YEDDO, a good port, the capital of the empire of Japan, with a population of 800,000, the residence of the Tycoon or civil head of the state, who lives in a fortified palace, 12 miles in circumference; the other towns are: MIAKO, a sacred, learned, and manufacturing town, with a population of 300,000, the residence of the Mikado, or religious head of the state; OSAKA, a fortified town, defended by an enormous citadel.—The chief town in Kiusiu is NAGASAKI, which is fortified; until lately it was the only port open to foreigners.—These islands form a well-governed and flourishing empire, with a population of from 20 to 25 millions, whose civilization dates back to a remote antiquity, but has remained stationary for four or five centuries. The Japanese seem to be the indigenous inhabitants; they are brave, intelligent, but brutalized by sanguinary laws, the most complete despotism, and a pantheist religion, which is that of Sinto mixed up with Buddhism. They are very skilful in the arts, especially in printing and the manufacture of porcelain; they are very fond of European articles, and their great men even read the Dutch newspapers; but until quite recently the government forbade all intercourse with Europeans, and prohibited the Japanese from travelling. The emperor or *dairi* held both the civil and religious powers until 1142, when a military chief seized on the supreme power and reduced the dairi to the position of a mere pontiff. This state of things still exists. The army of Japan is said to consist of from 3 to 400,000 infantry and of 50,000 cavalry; its navy is very imperfect. These islands are but little known; they were discovered by the Portuguese in 1542; the Jesuits introduced Christianity into them in 1554, and formed a very numerous church until 1648, when the emperors proscribed Christianity,

and persecuted it so frightfully, that not a single Christian was left in Japan. Since that time, foreigners were excluded from the country, with the exception of the Chinese and Dutch, until, in 1858, the Japanese government made treaties of commerce with England, France, and the United States, and six ports have been opened to foreign trade.

On the south of the island of Kiusiu lie the archipelagos of *Loo Choo* and *Majico Sima*, the largest island of which is 75 miles in length; it is fertile, populous, civilized, and subject to the Japanese Empire. On the west of the southermost of these islands is the large island of *Formosa*, very fertile, with a population of 2 millions; it belongs nominally to China, but the western part only acknowledges its sway; the remainder is inhabited by barbarian tribes in a constant state of rebellion. The chief town is TAI-WAN.

The series of islands is continued by the Philippine islands, Borneo, and Sunda islands, which belong to Oceania; but in the Gulf of Tonquin we find *Hainan*, which belongs to China.

Rivers and Peninsulas.—1. *The peninsula of Kamtchatka.* This ice-bound, unfertile country, inhabited by barbarians, has no place of any interest except the port of PETROPAVLOVSKI, one of the finest in Eastern Asia, near the volcano of Avatska (8,760 feet).

2. The *Saghalien* or *Amour* is formed by the union of the *Kerulun* with the *Onon*. The former, also called *Argun*, is regarded as the main branch; it flows through the immense sandy plains forming the northern part of the desert of Shamo, passes through Lake Kulun, and forms the boundary between the Russian and Chinese empires. The latter, called also *Shilka*, washes NERTSCHINSK, a fortified Russian town, the most terrible place of exile. The first hordes commanded by Genghis Khan, lived on the banks of these two streams. They unite at fort Baklanova, where they pierce the chain of Khingan; here it is that the Saghalien truly commences in an immense basin, surrounded on all sides by high mountains; it flows through Dauria and Mantchouria, unfertile and scantily peopled countries, whose inhabitants are of the Tungusian race, barbarous and warlike; it was they who in 1115 and 1644 conquered China, where they still reign. The Saghalien ends opposite the island

of the same name, after a course 2,200 miles in length, reckoning from the source of the Argun. Of late years the Russians have obtained entire possession of this river, below its confluence with the Usuri; they also possess its left bank between the Usuri and Lake Kulun; and they have founded settlements at its mouth, and on other parts of its course.

3. *Peninsula of Corea.*—It is 600 miles long, and 150 broad; traversed from north to south by the Mantchourian hills, it is cold, but fertile, and highly cultivated, and forms a separate kingdom, tributary to the Chinese Empire. Its towns are numerous, its inhabitants civilized, cowardly, and cunning; its troops bad, its fortresses ill-defended, its fleet remarkable. The manners, laws, and religion are the same as in China. KANG-HOA, the second town of the kingdom, was burned by the French in 1866. Kang-hoa is on an arm of the sea, near the mouth of the river *Hang-keang*, on which SEOUL, the capital, is situated.

4. The *Pei Ho* rises in the Ta Hang hills, flows through the province of Chili, receives the *Eu Ho*, and ends in the Gulf of Pechili. On the Pei Ho stands PEKING, capital of the Chinese Empire, divided into two cities: the imperial city, where the Mantchous reside; the old city, inhabited by the Chinese; together they measure 98,400 feet in circumference; population, 1,300,000. They were taken by the combined British and French armies in 1860. The Pei Ho is connected with the Hoang Ho by the Imperial Canal; its entrance is defended by the Takou forts, taken by the British and French troops in 1860.

5. The *Hoang Ho* (Yellow River) rises in Koko-nor, runs from S.W. to N.E., partly skirted by the great wall, and quits the plateau; it turns north into Mongolia, then turns back southwards and re-enters China, leaving in the large rectangular space formed by this twofold direction, a vast mountainous plateau; it then runs from west to east, washes KAI FONG, a large town of 300,000 inhabitants, and now ends in the Gulf of Pechili, after a course of 2,480 miles in length. It receives the Wei Ho, which flows through the province of Shen Si, and washes SINGAN, a large fortified town, containing the principal forces of the Mantchous destined for the defence of the north. —This river is crossed four times by a great wall more than

1,000 miles in length, which runs from west to east across mountains and deep valleys; this enormous work, which is 15 to 30 feet in height and 15 in breadth, with a tower furnished with guns every hundred paces, was intended to protect the Chinese empire against the incursions of the nomadic hordes of central Asia: but it never sufficed to preserve the empire from the invasions of northern tribes: a million of soldiers would be needed to man this useless rampart.

6. The *Yang-tse-Kiang* (Blue River) apparently rises in the plateau of High Tibet; it flows from N.W. to S.E. in that country, whose frontier it skirts, and in which it thrice changes its name; it leaves the mountainous plateau by a deep gorge and flows southwards; it enters China, receives large tributaries from the Yun-ling, forms a great elbow on the north of Yunnan, and changes its directions to N.E.; it flows through the provinces of Yun-nan, Sze-Chuen, and Hupeh, receives the waters of Lakes Tungting and Po-yang, washes NANKIN, the capital of the emperors of the Ming dynasty, fallen into decay since the Mantchou conquest; population, 500,000; it is connected by canals with the Hoang, and ends in the Eastern Sea, after a course of upwards of 3,000 miles.

Between the mouths of the Yang-tse and Choo-Kiang, or Canton River, the coast is mountainous, without long rivers, and studded with ports; among these we observe: HANGCHAU, on the river Tsien-tang, a large and fortified town of 300,000 inhabitants; CHINGKIANG, a fortified town on the Yang-tse-kiang, the key of the empire from the sea, being at the junction of the river with the grand canal. Taken by the British in 1842.

7. The CHOO-KIANG rises in the Yun-nan mountains, flows from west to east, washes WUCHAU, a large manufacturing and commercial town of 200,000 inhabitants; KWANGCHAU-FOO (Canton), a large port and fortified town, with one of the largest trades in Asia, and where the Europeans have establishments (as they have also by treaty at Amoy, Fuhchau, Ning-Po, and Shanghai); population, 400,000; it was taken by the British and French in 1858. It ends in the Gulf of Canton, at the entrance to which we find: *Hong Kong*, a small island ceded to the British by the Chinese in 1842; MACAO, a small fortified and trading town belonging to the Portuguese.

8. The *Sang-Koi* flows through Yunnan and Tonquin, passes KE-SHO (Cachao), the ancient capital of Annam, and ends in the Gulf of Tonquin.

Between the mouths of the Sang-Koi and Cambodia, the coast of the peninsula of Cochin China is fringed with mountains, and contains several remarkable towns: 1. HUE, capital of the empire of Annam, a large and very strongly fortified town, the fortifications of which were planned by French engineers; the construction of its citadel, magazines, barracks, military and naval arsenals, occupied more than 100,000 men for twenty years. It is also a port of war, the ordinary station of the fleet, and the seat of the building yards; population, 100,000. —2. SAIGON, a large trading town, with an enormous citadel constructed by French engineers; a canal, 20 miles long, lately constructed, connects it with the Cambodia; taken by the French in 1859, and the capital of their possessions in Cochin China.

9. The *Ma Kiang* or *Cambodia* rises in the mountains of Siuechau, in the north-west of Yun-nan; flows from north to south through Laos and Cambodia; washes CAMBODIA, a large town in a state of decay, and ends by several mouths in the China Sea.

10. The *Menam* rises in the mountainous ridge that separates the Saluen from the Ma Kiang, flows through the kingdom of Siam from north to south, washes SIAM, formerly a flourishing town, destroyed by the Burmese, and ends in the Gulf of Siam, below BANGKOK, capital of the modern kingdom of Siam, a large port, with an arsenal and dockyards.

11. *Peninsula of Malacca.* (See *Southern Watershed.*)

Political Divisions.—The eastern watershed politically contains: 1. The N.E. part of *Asiatic Russia.*

2. *Dauria; Mantchouria*, province of the Chinese empire; the kingdom of *Corea*, a vassal province of the same empire; *China* properly so called; the eastern part of *Tibet*, a vassal province of the Chinese empire; part of *Mongolia* and *Koko-nor*, tributary provinces of the same empire.—This immense empire, whose civilization is of the most ancient date, has remained isolated from the West, and has had no part in the revolutions of Asia, except in having been conquered by the nomadic hordes of the

North. These conquests have effected no change in its life, its customs, its laws or its language, to which its conquerors voluntarily conformed. The government is despotic; but the emperor is obliged to choose his administrative officers among the class of the men of letters, according to fixed rules and by public competition. The religion of the people is that of Fo, which is a modification of Buddhism: the religion of the learned is that of Confucius. The language is the most curious and complex of all known idioms, and, though Chinese literature occupies the foremost rank in Asia by the number, the importance, and the authentic character of its records, it may well be believed that it is owing to the difficulty of their language that Chinese civilization has remained stationary. The sciences among them are in a very imperfect state, especially mathematics, and yet they employ the decimal method; their knowledge of astronomy and medicine is a mass of superstitions; their architecture has grandeur and elegance; but they display all their magnificence on their public works, and their canals, bridges, embankments and roads are very remarkable. They are very far behind in the art of drawing, and are ignorant of perspective. Their artillery, muskets, and gunpowder are very bad; and their army, composed of from 5 to 600,000 slaves, is unable to stand against a few regiments of European troops, as was shown in the war they were lately engaged in with England and France. Their naval architecture is very imperfect, and their navy bad. They have brought agriculture to a high degree of perfection, leaving not a foot of land uncultivated, and they make excellent use of the vegetable wealth of their soil; their chief production is tea, with which they supply all the world. From the most remote antiquity they have known the art of printing, the compass, gunpowder, the manufacture of paper, silk, cotton cloth, &c. Their internal trade is immense, by aid of the well-regulated system of navigation afforded by their numerous canals and rivers; their external trade is less important, but it is conducted at a disadvantage to their European customers, as the Chinese will only take the precious metals in exchange for their merchandise. The country is over-peopled; in China alone there are more than 450,000,000 inhabitants.

3. The kingdoms of *Tonquin*, *Laos*, *Cochin China*, and *Cam-*

bodia, which compose the empire of *Annam*, founded at the beginning of the nineteenth century by Gia-long, the last survivor of the kings of Cochin China, with the assistance of some Frenchmen, among whom Pigneaux, bishop of Adran and prime minister of Gia-long, deserves to be mentioned, under whom the new empire made immense progress, especially as regards its navy. Had not the revolution of 1789 caused the deeds of the French who were sent to that country to direct Gia-long's reforms to be lost sight of, the empire of Annam would have had an incalculable influence upon the destinies of Asia, an influence which was annihilated by the preponderating power of the British and by the death of the bishop of Adran. The last French officers left the country in 1823, and France had forgotten the Annamites until the persecutions exercised against the Catholic missionaries compelled her, in 1858, to send an expedition to Cochin China, which seized on Turan, Saigon, &c., and compelled the Annamite sovereign to make over to France all lower Cochin China, comprising six provinces and 2,000,000 inhabitants. Colonial settlements have been commenced there, and the Cambodia river or Ma Kiang has been ascended by a French expedition as far as Yunnan, in China. —The government of Annam is despotic; its religion is Buddhist; its customs and laws very much resemble those of China.

4. The kingdom of *Siam*, lately released from the rule of the Burmese. The new dynasty is of Chinese origin, and acknowledges vassalage to the Mantchou emperors. The religion is Buddhist.

§ VI.—WATERSHED OF THE INDIAN OCEAN.

This watershed is formed by the western slope of the Malacca mountains and the heights that run between the Saluen and Ma Kiang as far as the Siuechau mountains; by the southern slope of the Himalaya; of the Hindoo-Koosh; of the mountains of Persia and Armenia; by the eastern slope of the mountains of Syria and Arabia. Its two extreme points are Capes Romania and Bab-el-Mandeb.

Mountains.—When we reduce to a system the very confused and fragmentary knowledge we possess relative to the orography

of Southern Asia, we may imagine that of the groups on the south east of Tibet, some under the name of Sinechau, turn the source of the Irawaddi, and skirt the upper course of the Brahmaputra, becoming gradually lost in the successive plateaus of Central Tibet, until they join the transversal chain of the *Bolor*;* the others separate the Irawaddi from the Saluen and its tributaries, throwing out branches between these streams; then the mountains between the Brahmaputra and the Yang-tse-kiang are a group remarkable not only for being at the point where the Chinese, Burmese, and British dominions meet, but also because it is the point of union of the eastern mountains of Asia with the Himalayas.

Thereabout commences the long and dense wall of the *Himalayas*, which runs from east to west, separating the basin of the Ganges from the course of the Yaru or Sanpu, which runs parallel with their crest; they separate Bhotan, Nepaul, and Punjab from Tibet; their highest point is Mount Everest, or Gaurisankar, the highest mountain in the world (29,002 feet); they then turn to the N.W. in order to join the northern groups of the central plateau which surround the Yaru or Sanpu. This point of junction is very remarkable in that here the Sanpu river rises on the S.E., the Indus on the N.W. (the narrow valleys of these two rivers, hemmed in by the Himalayas, seem to be a prolongation of one another), and lastly the Ganges on S., the upper valley of which has no marked enclosing mountain belt like the other two. Then the Himalayas continue in the direction from S.E. to N.W., offer a gap for the passage of the Sutlej, a tributary of the Indus, separate the upper course of this river from its middle course, and at length become lost in an enormous mass of hills lying between Kabool, Cashmere, Ladak, and Badakshan, which may be regarded as the central nucleus of Asia. In fact, from this point four chains are given off at right angles, the *Himalayas* to the S.E., the *Tsungling* to the east, the *Bolor* to the N., the *Hindoo Koosh* to the W. We have already spoken of the Tsungling, which runs in a confused manner from west to east to join the Kuenlun, thus forming the framework of the northern mountains of Tibet;

* Unless the Sanpu descends from Tibet into the Brahmaputra, in which case the greater part of the Tibetan plateau belongs to this watershed.

we shall again meet with the Bolor in the central plateau; as for the Hindoo Koosh, by which the belt of the watershed is continued, it divides between Cabool and Kandahar into several branches, the two extreme of which enclose the interior plateau of Persia. The southern branch runs across Afghanistan and Beloochistan, under the name of *Suliman* and *Hala* mountains (11,298 feet), separating the basin of the Indus from the waters of the Persian plateau; it skirts the Persian Gulf, traverses Farsistan, then turns N.W., separating Irak Adjemi from the basin of the Tigris, under the names of *Elvend* and *Aghridagh*, passes between lakes Van and Urumiah, ramifying into innumerable branches in the chaos of mountains which form the southern portion of the isthmus of the Caucasus; finally it joins the northern branch, near the sources of the Aras and Euphrates in Mount *Ararat* (17,265 feet), the highest point of all this part of Asia. The northern branch runs to the west across Khorassan, seems to lose itself in the lofty plateau of this immense country, joins the *Demavend* mountains which encircle the southern portion of the Caspian Sea, by a plateau covered with volcanic asperities, and attaining a height of 14,800 feet; finally, it runs on to join Mount Ararat.

From this point there runs S.W. between Erzerum and Baibut, turning the sources of the Euphrates, a chain which connects the Taurus with the Caucasus, and of which the *Koptagh* (13,120 feet) is the principal nucleus; it runs westward in Anatolia as far as the sources of the Melas, a tributary of the Euphrates, approaches the Mediterranean on the S.E. by the *Alma Dagh* (Mount Amanus), which separates Cilicia from Syria, leaving two narrow passes, one near the Euphrates, called *Pylæ Amanicæ*, the other near the sea, called *Pylæ Syriæ*. These are famed in all the invasions of the interior of Asia, and particularly in that of Alexander, who delivered the battle of Issus near the last named. Mount Amanus is connected by the heights crowning the valley of the Asi (Orontes) with Mount *Casius*, a high peak on the south of Antioch, where the Lebanon commences.

The Lebanon run from north to south in Syria, following the course of the sea-coast, and divide into two branches; the *Lebanon* next the Mediterranean, which rises to a height of 11,155 feet, and the *Anti-Lebanon* next the plains of Damascus,

which rises to a height of 15,748 feet. The heights which, under the names of *Jebel Seir* and *Jebel Harra*, appear on the south of the Dead Sea, and twist through the N.W. part of Arabia, are the last prolongations of this chain, which become lost in the high deserts of northern Arabia.

As regards this peninsula (Arabia), it presents the appearance of an immense table-land, surmounted and crowned by mountains which seem to stretch without order in every direction, sometimes rising very high, sometimes interrupted by extensive arid plains; the principal chain apparently skirts the coast of the Red Sea as far as Bab-el-Mandeb.

From the series of mountains just described, the interconnexion of which is but little known, but which extends to a length of more than 8,700 miles, numerous chains run southwards.

1. The *Patkoi* and *Yomadung* ranges, given off from the Siuechau mountains, between the Brahmaputra and the Yang-tse-kiang, are prolonged along the valley of Assam, and the coast of Aracan and Pegu, and end at Cape Negrais.

2. Between the Sutlej and Jumna we find some heights which at first seem to be the preliminary terrace of the Himalayas; they become very intricate and rather elevated about Ajmeer; terminate in the *Aravulli* mountains, and rise again in the peninsula of Katiwar; others connect the Aravulli with the *Vindhya* mountains. The latter are a series of groups and plateaus, from 2,000 to 3,000 feet high, the general direction of which is from west to east, and which separate the basin of the Nerbudda from that of the Ganges; it is at this mass of heights that the peninsula of Hindustan is attached to the continent. Near the mouth of the Nerbudda commence the Western *Ghauts*, which form the framework of the peninsula, dividing it into two very unequal watersheds; they run along the west coast in a very well-marked and continuous chain of 3,000 to 5,000 feet in height, and end at Cape Comorin. Their slope is very rapid towards the Arabian Sea; on the Bay of Bengal they consist of a succession of terraces, the last of the slopes of which are precipitous, and form a chain of Eastern Ghauts, not very high, but through which the rivers escape by gaps.

General Aspect.—The eastern part of this immense watershed, strongly inclined towards the equator, defended from the north winds by the highest mountains in the world, watered by magnificent rivers, prolonged southwards by a large and superb peninsula, is one of the richest and most populous countries in the world. Its aspect is monotonous; its mountains display grand lines, but are deficient in picturesque details; its immense plains, scorched by the sun or inundated by the waters, are fertile, but not much varied. The extremes of heat and moisture to which the soil is exposed give it a prodigious vegetation, but at the same time a deleterious climate, which infects its inhabitants with indolence and effeminacy; hence this country, which excites the covetousness of conquerors, has never been able to resist foreign invasions.

The western part of the watershed, situated in the same latitude, and also prolonged by a large peninsula, presents a totally different aspect: immense table-lands and sandy deserts cover the half of its surface; its mountains supply it but scantily with streams; but they have every variety of scenery, delicious valleys, and a healthy climate; and its rugged and unfertile soil has at all times reared warlike races.

Coasts and Islands.—The coasts are generally low on the Bay of Bengal, precipitous on the Arabian Sea, rugged and inaccessible in Arabia itself; they are indented by numerous bays, and contain many ports.—The following islands are observed:

1. The *Archipelagos of Nicobar* and *Andaman*, near the peninsula of Malacca, peopled by savage tribes.

2. *Ceylon* (Taprobane), near Cape Comorin, is 250 miles in length by 100 in breadth. It is of great importance, on account of its admirable fertility, its superb ports, and especially on account of its position, which commands the peninsula of Hindustan and the navigation of the Bay of Bengal.—Its chief towns are COLOMBO, the capital, a fortified town; GALLE, a fine port with a large citadel; TRINCOMALEE, a very strongly-fortified town, with a good naval port, one of the best in Asia, and the key of the Indian Ocean; JAFNAPATAM, a good fortified port.—The Portuguese were the first Europeans who established themselves in this island; they were driven out by the Dutch, who

strove in vain to subdue the inhabitants of the interior. The British expelled the Dutch in 1795, conquered the whole of the island, and have ever since retained this fine possession.

3. The *Maldive* islands, near the Malabar coast; they are several thousand in number, but most of them are uninhabited.

4. The *Laccadive* islands, to the north of the Maldives; they are thirty-two in number, surrounded by a belt of shoals and coral reefs and well peopled.

The description of the southern watershed may be divided into the following regions: 1, peninsula of Malacca; 2, rivers of Tibet and Burmah; 3, basin of the Ganges; 4, peninsula of Hindustan; 5, basin of the Indus; 6, plateau of Persia; 7, basin of the Euphrates; 8, peninsula of Arabia.

1.—PENINSULA OF MALACCA.

The upper part of this hilly, fertile, and little known country is divided between the Siamese and the British; its lower part is almost entirely composed of independent countries, or countries subject to the Siamese; some are under British protection. On the coast we find: 1, SINGAPORE, a new and flourishing town, built by the English in a fine position, on an island near Cape Romania and on the strait of Singapore; 2, MALACCA, formerly fortified and commercial; 3, GEORGE TOWN, a British town, situated on the island of Pulo Penang (Prince of Wales' Island), with a good harbour, a citadel and an arsenal; 4, MERGUI, near the mouth of the Tenasserim.

2.—RIVERS OF TIBET AND BURMAH.

1. The *Saluen* rises in the Siuechau Mountains, in Yun-nan, flows from north to south through Eastern Yunnan and the Burmese empire, skirts the kingdom of Siam, washes MARTABAN, the ancient capital of a kingdom which the Burmese and English have divided between them, passes MOULMEIN, and ends at AMHERST, a new town built by the British on the Burmese frontier.

2. The *Irawaddy* rises in the Siuechau Mountains, flows from north to south through the Burmese empire, washes MANDELAY, capital of that empire, defended by a large citadel, also AMARAPURA and AVA, the ancient capitals now deserted; it divides into several branches, which inundate a country

370 miles in breadth, and in which we find: RANGOON, a flourishing port; PEGU, capital of a kingdom conquered by the British; SYRIAN, a port fallen to decay. It ends by fourteen mouths, which occupy a portion of the coast, 200 miles in extent.

The Saluen and Irawaddy comprise in their basins the empire of *Burmah*, which included in 1753 the kingdoms of Ava, Pegu, Martaban, &c. It then played a great part in the peninsula beyond the Ganges; but since the increase of the power of the British, whose dominions border their western frontier and who occupy all the coast, its influence is gone. Its semi-civilized inhabitants follow the Buddhist religion, and live under a despotic government.

3.—BASIN OF THE GANGES.

This river, whose basin is clearly defined on the north by the Himalaya, and indistinctly on the south by the heights connected with the Vindhya, rises in the southern slope of the Himalaya by two sources, at a height of 16,860 feet; it is broken by numerous cataracts, passes HURDWAR, flows through the province of Delhi from N.W. to S.E., washes FURRUKHABAD, a large fortified town, celebrated for the defeat of the Mahrattas in 1805; passes near CANNOGE, one of the most ancient towns of India, now fallen into decay; washes FUTTEHGHUR and CAWNPORE, military stations of the English; ALLAHABAD, a large arsenal, the queen of the holy cities in the eyes of the Hindoos, very much decayed, but important on account of its vast citadel. From this town, where it receives the Jumna, the river pursues a winding course from west to east, through the province of Bahar, washing MIRZAPOOR and CHUNAR, fortified towns; BENARES, the religious metropolis of India, containing 200,000 inhabitants; GHAZIPOOR and PATNA, large towns, the first of which contains the depôt for remounting the British cavalry, and the last of which has a population of 100,000. It then inclines S.E. through Bengal, and there commences the great delta, where its waters become dispersed through an infinite number of branches, and which resembles a sea of mud, tossed about by furious winds, traversed by rapid streams, and dotted over with inundated islands. The eastern

branch is the largest; it passes near DACCA, the ancient capital of Bengal, and joins the Brahmaputra; the western branch is called *Hoogly*, it passes MOORSHEDABAD, a large town of 100,000 inhabitants, in the neighbourhood of which is BEERHAMPOOR, a British military station; it washes CHANDERNAGORE, which belongs to the French; this town of 40,000 inhabitants, without trade, without fortifications, without importance, is lost in the midst of the immense British possessions; below it is CALCUTTA, capital of the British dominions in India, a large city of 600,000 inhabitants, with a good harbour, an arsenal, a cannon foundry and a citadel, Fort William, the most regular and important in India.—The mouths of the Ganges take up about 300 miles of the coast; its length is 1,490 miles; the salubrity of its waters, the richness of its basin, the fertility it causes by its periodical inundations, have made it a sacred river in the eyes of the Hindoos.

Tributaries on the Left.—The *Goomtee* washes LUCKNOW, capital of the kingdom of Oude, a British possession.

2. The *Gogra* flows through NEPAUL, a kingdom independent of the British, washes FYZABAD and OUDE, and ends between Ghazipoor and Patna.

3. The *Gunduck* rises near KHATMANDOO, capital of Nepaul.

4. The *Brahmaputra* rises in the mountains which form the eastern limits of Assam. It has been traced beyond Chusi in 97° 12′ east longitude, within a hundred miles of the Yang-tse-Kiang, an interval which remains unknown. The river leaves the mountains at the *Brahmakund*, or reputed source of the Brahma, a noted pool resorted to by Hindu pilgrims. Near SUDIYA, the chief town of Upper Assam, a British district, it receives the *Dihong*, supposed to be the lower course of the *Sanpu*, which, rising near the sources of the Sutlej, Indus, and Ganges, skirts the northern slope of the Himalaya, and flowing through the plateau of Tibet, receives among other tributaries a stream which washes LASSA, the capital of Tibet. The *Sanpu* is said to leave the plateau by the deep gorges at the eastern end of the Himalaya, from which the Dihong proceeds, but these recesses have never been explored. The Brahmaputra continues its course through Assam, where tea plantations have been formed by the British; it passes near RUNGPOOR and

JORHAT, the residence of the rajah; receives on the right some streams coming from BHOTAN, a mountainous and unexplored country; it passes near RANGAMATTEE, below which it turns to the south by numerous branches, leaves on its left the mountains of Garrow and Tipperah, joins the eastern branch of the Ganges, and contributes to the formation of its inextricable delta.

Tibet, *Bot*, or *Bhot*, is a lofty, cold, barren region, parcelled out among several chiefs subject to the Chinese Empire, whose governments are Buddhist theocracies, subject to the intervention of the Chinese residents, who play their part. The most powerful of these priest-kings is the Dalai Lama. It appears that Tibet, which has been represented as the cradle of the human race and of the religions of Asia, has always been peopled by very ignorant shepherds, of whom the Hindoos have for a few centuries past been the instructors in civilization, morality, and literature; hitherto they have made but very indifferent progress, and grovel under the superstitious dominion and ridiculous practices of their lamas.

Tributaries on the Right.—1. The *Kallee Nuddee* washes MEERUT, the largest British military station, and ALLYGHUR, a strong fortress.

2. The *Jumna* rises in the Himalayas, on the west of the sources of the Ganges, flows from north to south, passes near KURNAUL and PANIPUT, famous battle-fields in the history of India; washes DELHI, the ancient capital of the Great Moguls, and until 1858 the residence of the last of the descendants of Akbar and Aurungzebe; this city, sacked by Shah Nadir in 1738, several times laid waste by the Afghans and Mahrattas, was taken by assault by the British in 1857; it still has a population of 150,000. Thence the Jumna turns eastwards and washes AGRA, formerly a very flourishing town, now the capital of the North-West Province; and important on account of its citadel. It receives a great many tributaries, which come from the Vindhya mountains; one of the most important is the *Sind*, which washes NURWUR, a large fortress, and passes near GWALIOR, capital of the kingdom of Scindia, famed for its citadel, where the treasures of the Moguls used to be kept, and which was captured by the British in 1780. The Jumna then passes

CALPEE, leaves on its right KALLEENJUR, the fortress of which was destroyed by the British, and ends at Allahabad.

The basin of the Ganges belongs almost entirely to the empire of British India; it includes besides: *Nepaul*, a mountainous country, inhabited by the savage *Ghoorkas*, the capital of which is *Khatmandoo*.

4.—PENINSULA OF HINDUSTAN.

1. The *Mahanudee* rises in the Vindhya hills, flows through the Central Provinces, Gundwana, and Orissa; washes CUTTACK, a fortified town, and ends by several branches, on one of which lies JUGGERNAUT, famed for its pagoda, the holiest in India.

2. The *Godavery* rises in the Ghauts, passes near DOWLUTABAD, a fortress deemed impregnable, and near the ruined city of AURUNGABAD, once capital of the states of the Nizam, founded by Aurungzebe; it flows from N.W. to S.E. through Hyderabad or the Nizam's territory, on the tableland of the Deccan, an Indian state, tributary to the British, and ends in the Madras presidency by several mouths, near one of which lies YANAON, a French establishment, with an Indian population of 20,000. The Godavery is one of the sacred rivers of the Hindoos. One of its tributaries on the left passes near NAGPOOR, once the capital of a Mahratta kingdom, but now subject to the British, and forming a division called the Central Provinces.

3. The *Kistnah* or *Krishna* flows from W. to E., washes MEERUJ, a town and fortress, passes not far from BEEJAPOOR, a large city formerly strongly fortified, now fallen into decay, and ends by several mouths, on one of which stands MASULIPATAM, a fortified town, with a good harbour.—Its tributary streams are numerous: 1, the *Beima* receives a stream which washes POONA, once the ancient capital of the Mahrattas, a large and strongly fortified town taken by the British in 1818, and one of their chief military stations; in its basin lies AHMEDNAGGUR, a large and strongly fortified town, important from its position between the sources of the Kistnah and Godavery.—2. The *Toongabudra* has in its basin CHITTLEDROOG, a very strongly fortified town, garrisoned by the British.—3. The *Musi* washes HYDERABAD, capital of the kingdom of Hyderabad (population, 100,000),

and GOLCONDA, a town formerly famed for its diamonds, and said to be impregnable.

4. The *Penaur* washes the fortress of GANDICOTTA, and ends near NELLORE.

5. The *Palar* is only remarkable in that it washes VELLORE, a fortified town, one of the British military stations, and the place where the members of Tippoo Sahib's family live pensioned by the British Government.

On the north of the mouth of this river lies MADRAS, the second capital of British India, with a fine harbour, an arsenal, &c.; it is defended by Fort George, one of the most important strongholds of the peninsula; population, 400,000. Near it is St. Thomas's Mount, a granite rock, defended by a fortress, at whose foot is the principal British park of artillery.

To the south of the mouth of the same river lies PONDICHERY, a large town, formerly very flourishing, the chief town of the French establishments in India; it has only an unsafe roadstead, and a population of 45,000; taken by the British in 1761, 1778, and 1791.—The insignificant French possessions in India are neither agricultural establishments nor colonial enterprises, but simply commercial seaports; they are incapable of defence, and are but of little use. The melancholy towns of Chandernagore and Pondichery by the side of their brilliant rivals, Calcutta and Madras, are a permanent humiliation for the French name.

6. The *Cauvery* flows through Mysore from N.W. to S.E., washes SERINGAPATAM, the ancient capital of Tippoo Sahib, now fallen into decay and devoid of all military importance, taken by assault by the English in 1798; TRICHINOPOLY, a fortified town, one of the British military stations; TANJORE, a large fortified town. It ends by several mouths; one of these passes TRANQUEBAR, a good port, with a fortress, purchased by the British from the Danes in 1845; another ends at NEGAPATNAM, a fortified and commercial town, taken by the British in 1781; a third washes CARICAL, a French establishment.

All the S.E. coast of the peninsula is called *Coromandel;* on doubling Cape Comorin we come to the S.W. coast, which is called *Malabar.* Here we find TRIVANDRUM, a fortified town; COCHIN, a fortified town and good port; CALICUT, a town for-

merly flourishing, the first Indian town reached by Vasco de Gama; MAHÉ, a small French establishment; CANANORE, a small port and British fortress; MANGALORE, a good port and fortified town; GOA, chief town of the Portuguese establishments in India, now in a ruinous condition; BOMBAY, the third capital and first naval port of British India; arsenal, docks, and ship-building yards, &c.; it is built on an island, and is protected by an immense citadel; pop., 200,000.

7. The *Tapty* rises in the Vindhya hills, flows from east to west, passes near ASSEERGHUR, a large fortress; washes BARHANPOOR, a fortified town, and ends in the Gulf of Cambay, below SURAT, a large town with 100,000 inhabitants.

8. The *Nerbudda* rises in the Vindhya hills, flows from east to west through the Mahratta country, and ends below BROACH, a fortified town in the Gulf of Cambay. In its basin lies BARODA, capital of the kingdom of Gujerat, on the north of which is CHUMPANEER, a formidable fortress, taken by the British in 1803.

9. The *Sabermatty* flows from north to south, washes AHMEDABAD, a city destroyed by the Mahrattas, and ends in the Gulf of Cambay.

Between the Gulf of Cambay, into which the three last-mentioned rivers discharge their waters, and the Gulf of Cutch lies the peninsula of *Kattiwar*.

The peninsula of Hindustan and the basin of the Ganges constitute the immediate and mediate possessions, formerly of the East India Company, now of the British crown.—The immediate possessions include the richest provinces of the ancient empire of the Great Moguls; they are divided into three presidencies: Calcutta, Madras, and Bombay, which are subdivided into districts under the administration of a judge, a receiver, and a military governor.—The mediate possessions are the native states allies or vassals of Britain; the most of them have a British garrison, pay tribute, and have British *residents*, who are the real governors, and only leave to the prince or *rajah* the enjoyment of his private domains. The principal of these territories are: in the basin of the Ganges, Malwa, Bundelkhund, &c.; in the peninsula, Hyderabad, Mysore, Travancore, Gujerat, &c.

This wonderful empire, created by a mercantile company, contains more than 140 millions of natives, ruled despotically by a

few thousand British. The chief force of the East India Company, in addition to from 20 to 25,000 British troops, consisted of a native army, numbering 300,000 men, called *sepoys*, clad, armed, and disciplined after the English pattern, all the officers of which were British. It is well known that the greater number of these troops revolted in 1856, and brought the British rule into great danger. The mutineers were conquered and severely punished, but the army has not yet been quite reconstituted. The country is kept in subjection by 72,000 British and 113,000 native troops. The religion of seven-eighths of the inhabitants of India is Brahmanism; Buddhists are found in the neighbourhood of the Himalayas, and Mussulmans in the Deccan, Oude, &c. There are some tribes of savages in the Ghauts and Vindhya hills.

5.—BASIN OF THE INDUS.

The *Indus* or *Sinde* rises on the north side of the Himalayas, runs, under the name of *Sinh-Kha-bab*, from S.E. to N.W. on a plateau 12,000 feet high, and parallel to the crest of the Himalayas, waters *Ladak* and *Balti*, small countries dependent on Cashmere; it then turns westwards, issues from the central plateau by a series of gorges, flows S.W., washes ATTOCK, a fortified town, by which Alexander, Tamerlan, and Nadir Shah penetrated into India; it flows through the country of the Sikhs from north to south, and washes the fortress of BUKKUR there; it then flows through the British province of Sinde, where it washes HYDERABAD, a fortified town, the capital of this province; it reaches TATTAH, when it divides into several branches, which form a delta 125 miles in extent, and ends in the Arabian Sea after a course 2,240 miles in length. The most important port of KURRACHEE is on the west of its delta.

Tributaries on the Left.—1. The *Punjab* is a collection of five rivers, all running from N.E. to S.W., through a fertile and populous British province, also called Punjab (Pentepotamides), the central part of the ancient kingdom of Porus, and now-a-days the country of the Sikhs. The farthest east and the largest of these rivers is the *Sutlej* (Hesudrus or *Zaradrus*), which issues from Lake Manusarowar, on the north side of the Himalayas, not far from the Indus, flows parallel to the crest of the

Himalayas, and pierces this chain to flow S.W.; it passes near LOODIANA, a British military station, receives the *Beas* (Hyphasis), flows through the southern part of the Sikh country called Mooltan, and joins the *Jhelum* (Hydaspes). The latter is the most western of the five rivers; it rises in the S.W. watershed of the Himalayas, flows through the beautiful and high valley of *Cashmere*, washes the large town of that name, and falls into the *Chenab* (Acesines). Lower down, the Chenab receives the *Ravee* (Hydraotes), which passes LAHORE, the ancient residence of the Mogul emperors, and the recent capital of the kingdom of the Sikhs; the three united rivers are called the *Trimab*, which washes MOOLTAN, a town of great importance on account of its position and its citadel, and joins the Sutlej or *Ghara* at OOCH; below this town the five united rivers are named the Punjnud, which joins the Indus after a course of sixty miles near Mittunkote.

2. The *Loony* flows from N.E. to S.W., washes AJMEER, a fortified town in the hands of the British, in the middle of the states of the Rajpoots, flows through sandy deserts, and in the great marsh, called the Runn of Cutch, joins a branch of the Indus, which forms with it the large island of Cutch.

Tributaries on the Right.—The only remarkable one is the *Cabool*, which washes GHUZNI, a decayed town, the ancient residence of the Ghuznivede emperors; CABOOL, a strongly fortified and populous city, the ancient capital of the Afghan empire; JELALABAD, a fortified town; and PESHAWUR, a very strongly fortified town, the key of the Sikh country against invasions of the Afghans. Between these two last towns is the *Khyber Pass*, memorable for the destruction by the Afghans of a British army in 1842.

Political Divisions.—The basin of the Indus contains: 1. The ancient kingdom of the *Sikhs*, founded by Runjeet Sing, on the ruins of the Afghans, and by means of the submission of all the Sikh hordes who had ranged over the country for 200 years. This new state became, under Runjeet Sing, the second power in southern Asia; its sovereign succeeded in giving a regular government to regions for centuries abandoned to anarchy; its army of 60,000 men was organized after the European model by a Frenchman, General Allard; but after the death of Runjeet

Sing, the Sikh country fell under the sway of the British, and was their principal auxiliary in repressing the sepoy rebellion. The religion of the Sikhs is that of *Gooroo Gowind*, a mixture of Brahmanism and Islamism.

2. Territories of the *Sikhs*, now forming the British province of Punjab.

3. States of the *Rajpoots*, under native rule, but subject to the British. The religion of the Rajpoots is Brahmanism.

4. Province of *Sinde*, occupying the lower part of the Indus, and formed of the remnants of the Cabool kingdom; they are under the British Presidency of Bombay.—The princes or emirs of Sinde are Mahometans.

6.—PLATEAU OF PERSIA.

This plateau, whose belt we have described, is a chain of very high land, which unites on the one side with the plateau of Asia Minor, on the other with that of Central Asia; it is formed by the back of the Taurus, the two branches of which terminate in steep cliffs on the Caspian Sea and Persian Gulf. It is composed partly of mountains, that rise abruptly without any defined direction or marked chain; partly of elevated lands, grouped or clustered together without order; partly of extensive plains, scorched by the sun, interspersed with fresh and enchanting valleys; partly of saline and sandy deserts, intermingled with lakes without outlet, which receive the sparse and torrent-like streams. The climate, according to the various localities, is either very hot or very cold; the coasts of both seas are burning. There is but little land suitable for agriculture, but vegetation is very powerful; the soil produces little grain, but delicious fruits and wines, the finest silks and horses in the East, though the latter are not so swift as those of Arabia.

The Persian Empire, lying between Western Asia and Central Asia, skirted by two great rivers, and resting on two small seas, formerly played the first part in the history of Asia, but has now fallen into a state of absolute nullity. After having lost the half of her provinces in the last century, she is now threatened by Russia, who seeks to possess all the Caspian Sea and to reach the Persian Gulf, in order to restore the value of this

high road of commerce that was so much frequented in the middle ages, by which the merchandise of India could again be distributed over Europe by means of the Black Sea. The Persians are Shiite Mahometans, hence the cause of the inveterate hatred which the Turks bear towards them. Intelligent, industrious, and brave, they seem to be adapted for a great career; but they are brutalized by a despotism of forty centuries duration, by the most frightful poverty side by side with the most extravagant luxury, and by incessant revolutions. The towns of Persia are becoming deserted; the roads, infested by brigands, are no longer traversed by caravans; her seas can only show a few boats; her armies are only recruited from the nomadic horsemen of the desert, Turkomans, Afghans, Kurds, who wander about the deserts of the plateau, and, without patriotic ties, only serve to perpetuate her revolutions.

The most remarkable places in Persia are: 1. TEHERAN, residence of the Shahs; pop., 80,000.—2. ISPAHAN, on the Zendarood (a stream that becomes lost in the sand), the ancient capital of Persia, now fallen into decay; population, 60,000.—3. HAMADAN, near which lay Ecbatana, the ancient capital of the Medes, destroyed by Tamerlane.—4. SULTANABAD, a fortified town near SULTANIER, a ruined town, capital of Persia under the Tartar princes of the race of Genghis.—5. SHIRAZ, a fortified town in a valley enjoying a delicious climate, producing wines renowned throughout Asia; 30 miles N.W. of this town are the ruins of Persepolis.—6. Tabriz or TAURIS, a large town, the ancient residence of the kings of Persia, now very strongly fortified, and famed for its citadel and arsenal; pop., 100,000.

In the countries of Cabool, Herat, and the Beloochees, the remnants of the Afghan empire, we find:

1. KANDAHAR (Alexandria ad Paropamisum), a fortified town with 100,000 inhabitants, lying in the basin of the *Helmund*, the largest river of the plateau, which runs into Lake Zurrah.

2. HERAT, in Afghanistan, a fortified town, with 80,000 inhabitants.

3. KELAT, the chief town of Beloochistan, fortified and commercial.

On the coast of the Persian Gulf, the only remarkable place is ORMUZ, a granite island, which was the mart of Indian com-

merce before the discovery of the Cape of Good Hope; it now belongs to the Imaum of Muscat, who maintains there a guard of 200 soldiers.—All this coast is peopled by Arab pirates or fishermen; their principal port is BUSHEER.

7.—BASINS OF THE EUPHRATES AND TIGRIS.

The *Euphrates* or *Frat* is formed by the union of two parallel streams, the *Kara Su* and the *Murad Chai*. The latter, the larger of the two, rises in the *Ala-dagh* hills (mons Abus) and washes MELAZGHIRD; the former, farther north, rises near ERZEROUM, a flourishing manufacturing town, the bulwark of the Ottoman empire against Russia and Persia; pop., 60,000. They unite at the S.E. of Arabgir, and then the Euphrates flows south, separating Al Jezira (Mesopotamia) from Syria; it washes SEMISAT (Samosata), below which it quits the mountains through which it had rushed in a succession of rapids from its source, and flows through a majestic valley, where it washes RAKKAH and Anah; it leaves on its right an immense desert, on the north of which lie the ruins of PALMYRA or TADMOR, founded by Solomon, flourishing in the time of Zenobia, destroyed by Aurelian, restored and fortified by Justinian, devastated on several occasions by the Arabs. It then flows more S.E., washes HILLAH, built on a part of the site of Babylon, and at KORNA joins the Tigris.—It receives: 1, on the west, the *Tokmah Su* (Melas), which flows through ancient Cappadocia and washes MALATIA (Melitene).—2. On the east the *Belikh*, which washes HARRAN (Charræ), now ruined, celebrated for the victory of the Parthians over Crassus, and ends at Rakkah; on the N.W. of Harran is ORFAH (Edessa), a fortified town, capital of a powerful state in the time of the Crusades; pop., 50,000.—3. On the east the *Khabur* (Chaboras), which rises in the Sinjar hills, inhabited by the fierce tribes of the Yesids; one of its tributaries passes MARDIN, a fortified town, and NIZIBIN (Nisibis), a small town, formerly the most important stronghold in Mesopotamia, which played a most conspicuous part in the wars of the Romans with the Parthians.

The *Tigris* (Dijleh, the arrow) is formed by two streams which rise in the detached branch of the Taurus, called *Masius*, which separates the Euphrates and Tigris. The western stream

passes DIARBEKR (Amida), a large town, with 60,000 inhabitants; it then flows S.E., leaving between it and the Euphrates a broad and magnificent tract of country, called Mesopotamia, which is covered by ramifications of the Taurus, as far as the S.W. of Mosul, and which then becomes an immense flat plain intersected by sandy deserts; it thus washes MOSUL, a large town with 60,000 inhabitants; it then approaches the Euphrates, and at the point where the distance between the two rivers is smallest, bathes BAGHDAD, a fortified town with a large citadel, very much fallen off from its splendour in the days when it was the capital of the empire of the Caliphs; pop., 100,000. Below it are scattered the ruins of SELEUCIA and CESEPHON, which almost trench upon those of Babylon; here was the centre of the Assyrian, Syrian, Parthian, and Arabian empires; lying, so to speak, in the middle of the old world, these towns became the mart of the trade, by sea and by land, of India with Western Asia and Europe, and this was the origin of their power. From Baghdad, onwards, the Tigris is separated from the Euphrates by a rich plain permeated by canals, and the two rivers unite at Korna.—It receives on the east: 1, the *Chabar*, which flows near AMADIEH, a fortified town, the chief town of a very powerful Kurd principality; 2, the *Zab*, in whose basin lies JULAMERIK, capital of Koordistan and ARBEL (Arbela), celebrated for Alexander's victory over the Persians; near the union of this stream with the Tigris lies NIMROUD, a village built on the site of NINEVEH.

The united Tigris and Euphrates is called *Shat el Arab* (river of Arabia), washes BUSSORAH, a large fortified and trading town of 60,000 inhabitants; divides into several branches, embracing a delta 37 miles in extent, and ends in the Persian Gulf.—The S.E. branch receives the *Kerkhah*, which washes KERMANSHAH, a Persian fortified town, and passes near the ruins of SUSA.

This basin forms part of the Ottoman empire. The Kurd tribes are independent.

8.—PENINSULA OF ARABIA.

This large peninsula, bounded by the Red Sea, the Arabian Sea, the Persian Gulf, the Euphrates, the Syrian mountains, and

the Isthmus of Suez, is a square plateau traversed by mountain chains of unknown order and direction; intersected by vast sandy deserts, with no deep valleys and no rivers; inhabited by independent tribes, some nomadic, others settled. The coasts are very fertile, as are also some small valleys in the interior; but, as a rule, the climate is scorching, and the soil yields but few productions; still, coffee, spice, and horses are the glory of Arabia. Lying between Africa and Asia, connecting the Mediterranean with the Indian Ocean, this region was the only route for the commerce of India before the discovery of the Cape of Good Hope, and it exercised an immense influence over the destinies of the East, not only by its position, but still more by the character of its energetic, intelligent, and enthusiastic inhabitants. From Arabia issued the conquering religion of Mahomet.

Arabia may be divided into six principal parts: 1. The *Lachsa*, on the Persian Gulf. This is a very hot, barren, and ill-explored country; through it flows the *Aftan*, on which lies LACHSA, the chief town of the country, and which ends opposite the *Bahrein* islands, famed for their pearl fisheries. On the coast we find EL KATIFF and RAS EL KHYMA, fortified ports, which were the retreats of formidable pirates, destroyed by the English in 1809.—2. *Oman*, on the Persian Gulf, is almost entirely under the sway of the Imaum of Muscat, a petty sovereign, with a tolerable navy; it is the most trading part of Arabia. The principal town is MUSCAT, a very flourishing port and fortified town.—3. *Hadramaut*, on the Arabian Sea, an imperfectly explored, sterile country, carrying on a considerable trade in frankincense. The chief port is KESHIN.—4. *Yemen*, on the Red Sea, was formerly a tributary kingdom of the Sultans of Cairo; it is now independent, under an imaum, who rules despotically. It is a fertile and rather populous country; its capital is SANA, a large fortified town. Its ports are MOCHA, a fortified town and flourishing port; ADEN, a first-class naval and military port, a town important on account of its fortifications, its harbour and its trade; the British have taken possession of it, and through it are masters of the entrance to the Red Sea.—5. *Hedjaz*, on the Red Sea, is a dependency of Turkey. The capital is MECCA, famous as the birthplace of

Mahomet, and defended by three citadels; the other towns are JIDDAH, the best harbour in the Red Sea; MEDINA, or town of the prophet, which has for its port YAMBO, a fortified town; AKABA, a village on the site of the ruins of Eziongeber, whence the Phœnicians and Jews traded with Africa and India; ELJY, a village on the ruins of Petra, to the north of which lay Karak and Montreal, famous in the times of the Crusades.—6. *Nejd*, in the interior, is divided among the independent tribes, and contains no remarkable place. Bedouins, nomadic and pastoral brigands, wander over its deserts; it was there that the Wahabites, warriors who essayed to reform the Islam religion, extended their dominion. Their capital is RIADH, near DERAIAH; the latter was besieged and taken by Ibrahim Pacha in 1818, and is now a heap of ruins.

§ VII. WATERSHED OF THE MEDITERRANEAN.

This watershed is formed by the west slope of the Lebanon, Taurus, and Caucasus mountains, and consists of the peninsula of Anatolia (Asia Minor), with two expanses of coast, one on the Mediterranean, the other on the Black Sea. The two extremities are the Isthmus of Suez and the Straits of Yenikale, by which it is connected with Africa and Europe. We shall divide it into: 1, the western watershed of the Lebanon, or Syria; 2, peninsula of Anatolia; 3, watershed of the S.W. of the Caucasus or Colchis.

Mountains.—We have seen that the Lebanon range is connected by the Alma Tagh with the *Western Taurus*, which latter is sent off from the Erzeroum group, and runs west to form the framework of Anatolia. The Taurus of Anatolia, like that of Persia, is less a chain than a plateau crowned by several chains, or a terrace on all sides resting on chains which form its bounding slopes, on which a small number of streams flow into interior lakes. Of these interior chains, whose general direction is from east to west, three are remarkable. The first runs along the south coast as far as the Gulf of Cos: this is the *Ala Tagh*, or *Taurus* properly so called, and the *Amanus* is its southern appendix. The second runs through the centre of the peninsula with frequent breaks, and ends about the gulfs of Smyrna,

Samos, and Adramiti; one of its appendices forms Mount Ida, and ends at the Dardanelles. The third runs close to the Black Sea, fills up with its branches the space comprised between the Caucasus, the Halys (Kizil Ermak), and the Sangarius (Sakaria), and ends by one of its branches on the Bosphorus.

The *group of Erzeroum* is merely the southern part of a detached branch of the Caucasus which runs from south to north, separating the Black Sea from the Caspian, and which joins the great chain about Mount Elbruz. The Caucasus runs from S.E. to N.W. from Cape Apcheron to Fort Anapa, and fills with its ramifications the isthmus comprised between the Black and Caspian Seas, which is 350 miles in breadth between Derbend and the mouth of the Phasiss (Rhion). The passes of this chain are famous; it was through them that the peoples of northern Europe poured to invade Asia: between Mozdok and Tiflis is the *Gate of the Caucasus*, which is defended by the castle of Dariel, situated in Europe (see Russia, p. 421); the *Gate of Albania* or Derbend, parallel to the Caspian Sea; the *Gate of Iberia* (Georgia) or defile of Sharopan, which the Russians have made practicable for an army.

General Aspect.—The plateaus of this watershed are similar in character to the central plateaus; but the mountains form deep narrow valleys, through which run short and impetuous streams. The climate is warm, the atmosphere clear, the soil fertile, especially in the vicinity of the seas. The admirable position of Anatolia between the three divisions of the old world gave it a commanding influence over the destinies of the ancient nations; but in those days the Asiatic and European civilizations which met on this privileged portion of the earth have disappeared; there are now no large towns, no monuments, no roads, the agriculture is in a pitiable state; some manufactures are still carried on, but commerce is always diminishing, and the same desolation, the same sterility are found on both the bands of coast formed by the watersheds of the Lebanon and the Caucasus, in Syria and in Colchis.

Coasts and Islands.—The coasts are almost everywhere very steep, but it is only in the peninsula that they are indented by bays and fringed by islands. These islands are very remarkable: 1. *Cyprus*, which is 140 miles in length by 40 in breadth,

formerly wealthy and populous, now deserted and ruined: its capital is NICOSIA, a large fortified town; its chief port is FAMAGOSTA, a fortified town, taken by the Turks in 1571, and its most frequented roads LARNAKA. During the decay of the Greek empire, this island had its own sovereigns; Richard Cœur-de-Lion drove them away and bestowed it, in 1191, on the family of Lusignan, out of whose hands it passed into those of the Venetians, in 1489. The Turks conquered it in 1571. It is a very important possession, commanding the coasts of Anatolia, Egypt, and Syria.—2. *Rhodes*, so celebrated in ancient times for its laws, its wealth, and its civilization, now ruined, but still important on account of its situation, which commands the navigation of the Mediterranean. The town is one of the strongest fortresses of the Ottoman empire, and its port one of her chief naval establishments. It was taken by the Turks from the Knights of St. John of Jerusalem in 1523.—The other islands are: *Susam* (Samos), a Greek and Christian island, enjoying self-government under the protection of the Sultan; *Skio* (Chios), formerly the wealthiest and most civilized of the Archipelago, laid waste by the Turks in 1822, and its population reduced from 100,000 to 14,000; *Psara*, a rocky and barren island, lying in the middle of the Archipelago between Skyro and Skio; it formerly enjoyed great commercial prosperity; its ships began the Greek insurrection, and in 1824 it stood a siege, during which its whole population perished; it is now ruined and deserted; *Mitylene* (Lesbos), flourishing and populous, with fine naval ports; *Tenedos*, the key of the Hellespont, &c.

1.—WATERSHED OF THE LEBANON, OR SYRIA.

This long belt of country between the Lebanon and the Mediterranean sea, so populous, fertile, and polished in ancient times, the theatre of so many miracles and revolutions, is now desert, barbarous, and barren; and the remnants of twenty races who have successively occupied this renowned land now vegetate amid ruins beneath the yoke of a few brigands. The interior of the Lebanon, or the *Mountain*, is inhabited by two celebrated and often inimical tribes, the *Maronites* and the

Druses. The former being Catholics, have since the time of the Crusades been under French protection.

On the coast we find: 1. EL-ARISH (Rhinocolura), a fortress lying at the entrance to the desert of Syria, belonging to Egypt; taken by the French in 1799.—2. GAZA, a small and ancient town, taken by Alexander and Napoleon.—3. ASCALON, ruinous; battle of 1099, won by the Crusaders over the Mahometans.—4. JAFFA (Joppa), a small port, the nearest to Jerusalem.—5. KAISARIEH (Cæsarea), important in the time of the Crusades, now deserted.—6. AKKA or ACRE (Acco or Ptolemais), a very strongly fortified and famous town during the Crusades, taken by Philip Augustus and Richard Cœur-de-Lion; unsuccessfully besieged by Napoleon in 1799; taken by the British in 1840 from the Egyptians.—7. SUR (Tyre), the queen of the seas in ancient times, the capital of Phœnicia, which kept Alexander the Great for a whole year before its walls; it is now a miserable town of from 2 to 3,000 inhabitants.—8. SAIDE (Sidon), a silted-up port.—9. BEIROUT (Beritus), famous in antiquity and in the time of the Crusades, now a steam-packet station, and the chief port in Syria.—10. TRIPOLI (Tripolis), a port defended by a castle.—11. TORTOSA (Orthosio), a miserable village, opposite an islet, on which stood the large town of Aradus.—12. LATAKIA (Laodicœa), a commercial town.

It is not until just where the Nusairiyeh mountains join the Amanus that any river of considerable size runs into the Mediterranean. The largest is the *Asi* (Orontes), which rises on the western slope of the Anti-Lebanon, runs parallel to that chain from S.E. to N.W.; washes HEMS (Emesa) and HAMATH (Epiphania), a large and flourishing town; it passes near FAMIEH (Apamea), turns west and forces a passage through the chain, and falls into the sea after having washed ANTAKIEH (Antioch), formerly the metropolis of the East, now reduced to 10,000 inhabitants from 600,000, its population in the time of the Romans; taken by the Crusaders in 1097; destroyed by the Mamelukes in 1269.

In the south of Syria, between the two Lebanons, is the interior basin of the *Jordan*, which forms the greater part of ancient *Palestine* or *Judea*. This celebrated river rises in Mount Hermon on the west side of the Anti-Lebanon, runs

through Lake Merom, then through Lake *Tabarieh* (Sea of Galilee or Tiberias), on whose banks lies TABARIEH (Tiberias); on the west was *Galilee*, in which is Mount Tabor, a detached peak famous for the victory of the French over the Arabs in 1799. Between Mount *Tabor* (1,998 ft.) and Mount *Carmel* (2,132 ft.), close to the coast, lies the valley of *Esdraelon*, the most fertile part of Judea, through which flows the *Kishon*, a torrent that falls into the sea; this valley has been the place of encampment of all the nations which have invaded Judea, from Nebuchadnezzar to Napoleon; near it we find NAZARETH, CANA, and many other celebrated places.

The Jordan, on issuing from Lake Tabarieh, continues to flow south, leaving on the west all the country of *Samaria*, in which we notice SEBASTE, a small village on the site of Samaria, the capital of the kings of Israel; NABLOUS (Shechem and Neapolis), and RIHAH, a miserable hamlet on the ruins of Jericho. Then after a course of 100 miles it falls into Lake *Bahr Lut* (Dead Sea or Lake Asphaltites). This lake, so remarkable in a physical and historical point of view, is enclosed between the dusky walls of two rugged and naked chains, which form for it a long basin, hollowed out of a clayey soil mingled with strata of bitumen, salt and soda; no fish can live in it, and its banks and the surrounding hills bear an aspect of frightful desolation; it has a superficies of 540 square miles, and is at a level of 1,312 feet below the Mediterranean. On the west side of this lake "in the midst of these mountains is a parched basin, closed on every side by yellow rocky peaks; these peaks are only broken on the east, showing the abyss of the Dead Sea and the distant mountains of Arabia. In the middle of this stony region, within the enclosures of a wall, we catch sight of sad remains; scattered cypresses, shrubs of aloes and nopal, some Arab dwellings looking like whited sepulchres, cover this heap of ruins; this is poor Jerusalem!"* JERUSALEM (Hierosolyma of the Romans; el-Kuds esh-Sherif, the holy city, of the Turks) lies on the lower part of Mount Sion, Mount Acra, and Calvary; it is surrounded by walls flanked by towers, and skirted by the brook Kedron, which falls into the Dead Sea; population, 20,000. Besieged, taken, and destroyed by the Romans in the year 70,

* Chateaubriand, *Martyrs*, lxvii.

rebuilt by Adrian under the name of Ælia Capitolina; taken by the Arabs in 636, by the Crusaders in 1099, by Saladin in 1188, by the Turks in 1517. In the neighbourhood are the MOUNT OF OLIVES, the villages of BETHLEHEM and BETHANY, the valley of JEHOSAPHAT, &c.

Two other interior basins of small size lie on the east of the Lebanon and close to the great desert: that in the centre is the basin of a cluster of Lakes, into which flow the river *Awaj*, and the river *Barada* (Chrysorrhoas), which passes EL SHAM (Damascus), the wealthiest and most flourishing city of Syria, lying in a garden 150 miles in circumference; population, 150,000. On the north is the basin of the river *Kowaik*, which passes ALEPPO (Berœa), a famous commercial city of Syria, almost ruined by the earthquake of 1822; the *Kowaik* ends in a marsh.

Syria forms part of the Ottoman empire: until lately it was dependent on the Pasha of Egypt.

2.—ANATOLIA, OR ASIA MINOR.

This peninsula, so populous and so rich in ancient times, was then divided into: *Cilicia*, *Pamphylia*, *Lycia*, on the Mediterranean; *Caria*, *Lydia*, *Mysia*, on the Archipelago; *Bithynia*, *Paphlagonia*, and *Pontus*, on the Black Sea; *Galatia*, *Phrygia*, and *Cappadocia*, in the middle.

The present divisions of Asia Minor are:—

Kastamouni, chief town Kastamuni, including ancient Paphlagonia; *Koudavendguiar*, chief town Brussa, including part of ancient Bithynia, Phrygia, and Mysia; *Aidin*, chief town Smyrna, including part of ancient Isauria, Lydia, Ionia, Caria, and Pisidia; *Karaman*, chief town Koniych, including part of Isauria, Lydia, Pamphylia, Cilicia, Lycaonia, and Cappadocia; *Bozok*, chief town Angora; and *Sivas*, chief town of the same name, including ancient Cappadocia; *Adana*, called after its chief town, and including ancient Galatia; *Trebizond*, called after its chief town, and including part of ancient Pontus and Colchis.

Following these divisions, which are almost entirely physical, we find:

1. In Cilicia: the *Pyramus* (Jyhoon), *Sarus* (Sihoon), *Cydnus*, &c., torrents which rise in the plateau and pass through gaps in the Taurus, to the sea. The remarkable towns are: BAYAS

(Baiæ), near the ruins of Issus, famed for the victory of Alexander over the Persians; ADANA, on the Sarus; the district in which it lies furnishes excellent wood for ship-building; JERSOOS (Tarsus), on the Cydnus, flourishing, and with a population of 30,000.

2. In Pamphylia, the *Eurymedon* is famed for the victory of Cimon over the Persians, and at the mouth of the *Dudon* (Cataractes) lies SATALIEH (Attalia), a town celebrated in the time of the Crusades, and still flourishing.

3. Lycia offers nothing remarkable.

4. Caria presents a series of peninsulas which formed the Greek province of *Doris*. We find there CRIO, a village built on the ruins of Cnidus; BUDRUM (Halicarnassus), a port defended by a citadel, with ship-building yards; PALATCHA, a wretched village on the ruins of Miletus.

5. Lydia is separated from Caria by the *Mendere* (Mæander), a large river, remarkable for its numerous windings, which flows from east to west, passing near AIDIN GUZELHISSAR (Magnesia Mæandri).—On the coast which formed the Greek province of *Ionia*, we find: AYASALOWK, a wretched hamlet at the mouth of the Cayster (Little Mendere), on the ruins of Ephesus; —TCHESME, a port famed for the battle of 1770, in which the Russians destroyed the Turkish fleet;—SMYRNA, a good port, defended by two castles, the centre of the Levantine trade; population, 12,000;—FOKIA, a small town on the site of Phocæa, the mother of Marseilles. Lastly, near the *Sarabat* (Hermus), on the brook Pactolus, is the village of SART, built on the site of Sardes, the capital of Asia Minor.

6. In Mysia, the coast of which was called *Æolia*, we find: PERGAMOS, on the Caïcus, a still flourishing town;—ESKI STAMBUL (Alexandria Troas), a large town built by Alexander, the ruins of which provided building materials to Constantinople for two centuries;—BUNARBACHI, a village built on the supposed site of Troy;—PERAMO, a village on the site of Cyzicus, so celebrated for its harbours, arsenals, and fortifications.—The brook *Granicus*, famed for Alexander's victory (334 B.C.), is now called *Oustvola*; it rises in the mountain chain that bounds the Troas, and falls into the Propontis (Sea of Marmora).

7. In Bithynia we find: BRUSA (Prusa), on the *Nilufer*

(Horisius), the ancient residence of the kings of Bithynia and of the Ottoman Sultans; population, 100,000.—NICÆA, on Lake Isnik (Ascanius), famed for the Council of 412 and the battle of 1097, won by the Crusaders over the Seljuks, now a miserable village called ISNIK;—ISMID, at the head of the Gulf of Ismid (Astacenus), a small village on the ruins of Nicomedia;—SCUTARI (Chalcedon); a large town of 100,000 inhabitants, looking like a suburb of Constantinople.—The largest river is the *Sankaria* (Sangarius), which washes ANGORA (Ancyra), a flourishing town, celebrated for the victory of Tamerlane over Bajazet; it flows from east to west, receives the *Pursak*, which washes KUTAIEH (Cotæum), a large town of 50,000 inhabitants; ESKI SHEHR (Dorylæa), battle of 1097, won by the Crusaders, and ends in the Black Sea.

8. Paphlagonia contains the mouths of the *Kizil Ermak* (Halys), the largest river in Anatolia.—It rises in the Central Taurus, washes SIVAS (Sebaste), flows from east to west through the plateau of Cappadocia, passes near KAISARIEH (Cæsarea), the ancient capital of Cappadocia, flows from south to north through Galatia, forming the boundary betwixt Paphlagonia and Pontus, and ends in the Black Sea.—On the coast we find SINUB (Sinope), a small town with a good harbour for ships of war, where the Russians destroyed a Turkish fleet in 1853.

9. In Pontus, the coast towns are: SAMSUN (Amisus), KERASUN (Cerasus), and TREBIZOND (Trapezus), an ancient town, with a population of 40,000; important on account of its roadstead, trade, and fortifications; it was the capital of an empire founded by the Comnenian princes, and was destroyed in 1452. This province is traversed by the *Yeshil Ermak* (Iris), which washes AMASIEH (Amasia), a large flourishing town defended by a strong castle, the birthplace of Mithridates and Strabo; it receives a tributary which bathes TOKAT, a large town with 50,000 inhabitants.

In describing the basins of the Sangarius and Halys, we have mentioned the chief places of importance in Galatia and Cappadocia; the only province that remains is Phrygia, a country of plateaus, lakes, deserts, and morasses, where we find KONIEH (Iconium), a decayed town, formerly the residence of the Seljouk

Sultans of Roum; battle of 1833, won by the army of the Viceroy of Egypt over that of the Sultan.

Anatolia forms part of the Ottoman Empire. Many of the Turkoman tribes are merely vassals of the empire.

3.—SOUTH-WEST WATERSHED OF THE CAUCASUS, OR COLCHIS.

The most remarkable river of this little-known country is the *Rhion* (Phasis), which flows through Mingrelia, passes KOUTAIS, the chief military town of this region, which belongs to Russia, and ends at POTI, a small fortified town.—To the north of this stream we find on the coast: ANAKLIA, a Russian fortress, and SOUKHOUM KALEH, a small fortified town, important for its harbour.—All this region, so celebrated in ancient times, is fertile, but poverty-stricken and peopled by semi-barbarous tribes, who have no trade except in slaves; they are divided into *Imirites, Mingrelians, Circassians, Abases*, &c.

§ VIII.—PLATEAU OF THE CASPIAN AND ARAL SEAS.

This plateau is formed on the west by the Caucasus; on the south by the Demavend mountains, the mountains of Khorassan, and the Hindoo Koosh; on the east by the Bolor, Thian Shan, and Alatau hills; on the north by the Oulouk Tagh and Ourals. It is divided into two distinct plateaus, that of the Caspian Sea and that of the Sea of Aral, and it presents this remarkable phenomenon, that it includes a space of about 10,000 square miles, forming a sort of funnel below the level of the sea; the Caspian being the lowest part of this singular depression. The towns of Saratov on the Volga and Orenburg on the Oural, though more than 400 miles from the Caspian, are just on the level of the sea. The highest parts of this plateau are not above 4,920 feet high.

Mountains of the Enclosing Belt.—We have already described the enclosing mountains of the north, west, and south. The chain of the Bolor, which forms the eastern belt, runs from the great group where the Himalayas, the Hindoo Koosh, and the Tsunling join; it runs generally from south to north, attaining a height of from 13,000 to 19,000 feet, and dividing the states of Independent Tartary from those subject to the

Chinese Empire; it then takes the name of *Thian Shan* (Celestial Mountains), trends to N.E., separates in a confused manner the waters of the Sea of Aral from those of the central plateau, and near the source of the Ili (Lake Balkash), divides into two branches: one to the east, which retains the name of Thian Shan, and which we shall meet with again; the other to the north, called *Alatau*, which joins the Altai.

1.—PLATEAU OF THE CASPIAN SEA.

We are already acquainted with the portion of this plateau which lies in Europe (from Cape Apcheron to the mouths of the Oural), that is to say, the N.E. watershed of the Caucasus, which belongs to the Russian Empire; its S.E. watershed is almost entirely comprised in the basin of the Kour, which belongs to the same empire. The *Kour* (Cyrus) rises in the Erzeroum hills, runs N.E., passing near AKHALTSIK or ARKISKHAN, a fortified town, taken by the Russians from the Turks; then S.E., washing TIFLIS, capital of Georgia, chief town of the government of the Caucasus, garrisoned by Russian troops; it flows through Georgia and Shirvan, and ends in the Agatch Gulf.—Its chief tributary is the *Aras* (Araxes), which rises in the same hills, and has in its basin: 1, KARS, a Turkish town, defended by a citadel, taken by the Russians in 1855; 2, GUMRI, a Russian fortress; 3, ERIVAN, capital of Russian Armenia, with a strong citadel, taken by the Russians in 1804. It forms the boundary between the Russian and Persian empires, and joins the Kour in the Shirvan.—All the south side of the Caucasus is inhabited by populations tolerably submissive to Russian rule.

On the south coast of the Caspian, which belongs to Persia, the chain of mountains being close to the sea only furnishes some torrents. We find there BALFRUSH, in the Persian province of Mazanderan; and ASTARABAD, in the province of the same name, middling ports.

The west coast is bordered by deserts, over which wander the Turcoman hordes; the north coast is of a similar character, inhabited by the Kirghis.

2.—PLATEAU OF THE SEA OF ARAL.

This lake is 200 miles in length by 100 in breadth; it is

surrounded on almost all sides by great sandy plains, and receives:—

1. The *Jihun* or *Amu Daria* (Oxus), formed by several streams coming from the Bolor, Hindoo Koosh, and Ak Tagh hills, the most southern one of which passes not far from BALK (Bactra); it flows from east to west in Bokhara, passes near KHIVA (Kharism), capital of a large khanate of Independent Tartary; lastly it turns north to run into the Sea of Aral after a course 750 miles in length. A branch of the Thian Shan separates it from the next river.

2. The *Sihun* or *Sir Daria* (Jaxartes), rises in the Thian Shan, flows from S.E. to N.W., washes KHOKAN, capital of a large and populous khanate, taken by the Russians in 1866; KHOJENT, a commercial town; flows not far from TASHKENT; the two last-named towns were formally annexed to Russia in 1866; passes OTRAR, famous for the victory of Genghis over the Kharismians; it ends by several branches, after a course 750 miles in length.

Several other streams fall into small lakes. The largest is the *Zer Affshan*, which passes SAMARCAND, a large town, fallen into decay, the capital of Tamerlane's empire; then BOKHARA, a fortified commercial town, the most enlightened in those regions; pop., 80,000; it then passes KARAKOOL, and ends in Lake *Dengis*. It is believed to be the *Sogd* of the ancients.

Between the Sir Deria and the Zer Affshan runs a mountain range called the *Ak Tagh*, separating the state of Khokan from that of Bokhara; on the north slope of this range, not far from the Syr-Daria, stands the fortress of ORATEPE or URATUPPA, and on its southern slope the fortified town of DJUZAK, within a few miles of Samarcand; both places were captured by the Russians in 1866, who thus possess the whole basin of the Sir Deria, and have gained a footing on the other side of its enclosing belt, threatening Samarcand and Bokhara.

This region, which geographers used to call *Independent Tartary*, is parcelled out into several sovereign khanates, the most powerful of which is that of Bokhara. The country is tolerably cultivated; the inhabitants, who are Sunnite Mussulmans, do a most extensive trade.

§ IX.—CENTRAL OR CHINESE PLATEAU.

This immense tract of deserts and sandy plains is bounded on the north by the Altai and Jablonnoi hills; on the east by the Khingan, Ala-Shan and Nan-Shan mountains; on the south by the Kuenlen and Tsunling mountains; lastly, on the west by the Bolor, Thian Shan, and Alatau hills. We have described all these mountains, which gradually lose themselves in the plateau without throwing off branches into it, except on the N.W., where the detached spurs of the Altai and Thian Shan form a very hilly country. The most remarkable of the chains of this part of the N.W. is the Thian Shan which fringes it on the south, and which after reaching Hami is lost in the desert of Gobi. (See watershed of the Pacific.) It divides the central plateau into two plateaus, a northern and a southern plateau.

In the northern plateau, from 4,000 to 5,000 feet in height, the lakes are numerous and the streams abundant, especially in the west; it contains, in the midst of frightful deserts, some pasture ground, through which wander hordes of Mongols, divided into *Kalkas*, *Eleuths*, *Tungusians*, &c. In the southern plateau, the highest parts of which are 13,000 feet high, the streams are rarer and become lost in small brackish lakes; the horrible monotony of these desert plains is hardly interrupted by the oases of *Hami*, *Lob*, &c. Still we find there a large river, the *Yarkand*, which falls into Lake Lob; it washes the large town of YARKAND, and has in its basin KASHGAR, a flourishing fortified town.

There are several towns on the slopes of the Thian Shan mountains, as Hami, Barkul, Turfan, Urumtsi, Karashar, Kutcha, Sairam, Bai, Aksu and Ush, all on the road between Yarkand and Peking. On the south-east of Yarkand is the town of Khoten, recently visited by a British officer.

The central plateau is subject to the Chinese empire. The part nearest the Bolor and Thian Shan mountains, called Little Bukharia and Zoongaria, is completely under the sway of that empire, and constitutes a government called the New Frontier, or Ili, the chief town of which is GOULJA, on the *Ili*.

BOOK VI.

OCEANIA.

The immense number of large and small islands, studded over the Pacific Ocean on the S.E. of Asia and the S.W. of America, between N. lat. 35° and S. lat. 56°, and between E. long. 93° 20′ and W. long. 102° 40′, have been collectively considered by geographers as constituting a fifth quarter of the globe, and called *Oceania*. Its superficies is 4,117,540 square miles, and its population 30,000,000. We divide it naturally into *Malaysia*, or *Asiatic Islands*, on the west; *Polynesia*, on the east; and *Australasia*, in the middle.

§ I.—GENERAL IDEAS.

These regions, but lately explored, which seem the remains of a distintegrated continent, belong to two classes. In the first are included the large islands, which are very high and of granitic or calcareous formation; their mountains form distinct and continuous chains, belong apparently to one and the same system, and contain many volcanoes. In the second are included the small islands which are low and formed of coral reefs; they have been built by millions of lithophytes which grow in these seas and raise chains of reefs, which the slow accumulation of the substances thrown upon them by the waters of the ocean cause to grow larger and higher. All these islands display the rich vegetation of Southern Asia, and enjoy the advantages of the torrid zone, without its excessive heat: they are inhabited by animals of different genera from what we meet with elsewhere, some of which seem to be freaks of nature.

Two principal races inhabit these islands, the black and the olive-coloured. The former appears to be the indigenous race;

in their physical constitution, in their abject squalor and wretchedness, in their ferocious and cannibalistic habits, in their invincible liking for the savage state, in their ignorance of the rudest arts, they seem to be the very lowest in the scale of humanity. They people all Australasia and a portion of the Asiatic islands.—The olive-complexioned belong to an interesting race, the Malay, who seem to have peopled all the islands from Madagascar to the coast of America, in all of which we find languages referable to the same idiom, and customs and institutions derived from common types. They are able navigators, and they display great skill in the construction of their ships. Most of them have a written language, and own a kind of literature, but cannibalistic habits are very prevalent among them. At various periods they have had much intercourse with the Hindoos, the Arabs, and the Chinese, and those who inhabit the Asiatic islands are Mahometans. Nowhere do we find such an extraordinary mixture of civilization and barbarism, of mild manners and ferocity. Their main stock seems to be in the Sunda islands, but they are also distributed throughout almost the whole of Polynesia.

Of foreigners in Oceania the most extensively distributed are the Chinese, by whom almost all the trade is carried on; they engage in a variety of manufactures with an ability and perseverance far beyond what Europeans can display. However, the ruling power of this part of the globe is Holland, whose sway is acknowledged by nearly one-half of the population of Oceania.

§ II.—ASIATIC ISLANDS, OR MALAYSIA.

Sunda Islands.—Under this name are comprised the islands of Sumatra, Java, Sumbawa, Timor, Flores, &c.

1. *Sumatra.* This large island is 930 miles in length and 200 in breadth; through it runs an immense range of mountains in the direction of the island itself, that is, from N.W. to S.E., almost all the peaks of which are volcanic, and the highest points of which are *Kassoumba*, 15,400 feet, and *Pasaman*, 13,964. Its population numbers about 2,000,000. As a rule, it is very fertile, has gold washings, tin, copper, and iron mines, &c., and produces all the vegetation of the torrid zone. Peopled

by Malays, who ruled over all the archipelago in the thirteenth century, who are half-civilized Mahometans, it is divided into several independent states. In the north we find the kingdom of *Achin*, which in the seventeenth century was a great maritime power; its capital, ACHIN, has 50,000 inhabitants and a good harbour; the inhabitants profess the Mahometan religion; the country of the *Batas*, a manufacturing people, who make metal work, have a tolerably rich literature, written laws, but who eat their criminals and prisoners of war. On the west coast the Dutch have establishments, the chief town of which is PADANG; they have also some fortifications at BENCOOLEN; and the kingdoms of *Palembang* and *Menangkabou* are tributary to them. The island of *Banca*, near Sumatra, contains the richest tin mines in the world; it belongs to the Dutch.

2. *Java.* Separated from Sumatra by the Sunda strait, it commands by its position the chief entrance to the seas of Oceania. Length, 560 miles; breadth, 125. Its mountains seem to be the prolongation of those of Sumatra, and contain active volcanoes; its coasts are high and dangerous. It is well watered, very fertile, contains immense morasses, and has a highly insalubrious climate; its population is from 8 to 9 millions. The Javanese are the best governed people of Oceania; they were converted to Mahometanism in the fifteenth century, and have at different periods exercised a great influence over the other islands. Now their various kingdoms are subject or tributary to Holland, which maintains a force of 8,000 Europeans in the island, forming eleven battalions of infantry, one regiment of cavalry, and two battalions of artillery, together with 20,000 native troops. BATAVIA, the chief town of the Dutch possessions in the Archipelago, lies on the north side, in an unhealthy situation; it is only defended by bad ramparts and an old castle; but from its position it cannot be attacked from the sea; its harbour is one of the finest in the world. It is the busiest commercial town and the most flourishing colony in Oceania; it contains 70,000 inhabitants. The second Dutch stronghold is SOURABAYA, a fortified town, with a naval arsenal, ship-building yards, and 50,000 inhabitants. Java capitulated to the British in 1811. It was restored to the Dutch in 1824, in exchange for their settlements in India.

3. Archipelago of *Sumbawa*, or *Lesser Sunda Isles*. It consists of the islands of *Madura*, *Bally*, *Lombok*, *Sumbawa*, *Flores*, *Timor*, *Sandalwood*, &c., lying in a continuous line on the east of Java, between Australia and the Moluccas; they are very fertile, are ruled over by independent princes, all except Timor, Sumbawa, and Madura, which are tributary to Holland. The Portuguese also still retain small settlements in Flores and Timor. The inhabitants are intelligent, trading, and half-civilized. Population, 2,000,000.

4. *Borneo*. This great island, nearly circular in shape, the largest island in the world after Australia, consists of an immense interior plateau, studded with groups of hills the direction of which is unknown, which rise to a height of 13,700 feet; its length is about 850 miles, its breadth about 600. It is very fertile, produces the camphor tree, the gutta-percha tree, and all tropical plants; it contains iron, tin, gold, and diamond mines. It is very imperfectly known. It is divided into several independent states, the most powerful of which are the kingdoms of *Borneo* and *Soulou;* the interior is occupied by the *Biajoos*, a savage, warlike, and cannibalistic race; the coasts are peopled by Malays and Chinese, who are addicted to piracy. A portion of the west and south coast is subject or vassal to Holland. A small island off the N.W. coast, *Labuan*, is under British rule.

5. *Celebes*. Lying on the east of Borneo, it is remarkable for the great bays which cut it out into several long and narrow peninsulas. Length 620 miles, breadth 250. Its mountains belong apparently to the Borneo system; but they are not so high. It is very fertile, abounds in picturesque views, and enjoys a temperate climate; it possesses luxuriant forests, and produces all tropical plants. Its inhabitants are very brave and but little civilized; among them are the *Bugges* and the *Macassars*, of Malay race, who inhabit the coasts, are able navigators, and profess Islamism. A large part of the island is subject or tributary to the Dutch; the chief town of their possessions is WLAARDINGEN, on the site of the ancient town of Macassar, formerly the capital of a powerful kingdom, defended by Fort Rotterdam.

6. Archipelago of the *Moluccas*. Lying on the east of Celebes, these islands, torn by volcanoes and earthquakes, spongy

and stony, warm and moist, are only fit for growing spices. The largest are *Gillolo* and *Ceram*; but the most important are: 1. *Amboina*, the centre of the cultivation of the clove tree, and the residence of the Dutch governor; the town is defended by several forts; 2, *Banda*, the centre of the cultivation of the nutmeg-tree; the town called NASSAU is defended by forts Belgica, Nassau, and Hollandia; 3, *Ternate*, a central military post for the defence of the Dutch possessions; it is otherwise remarkable for its high volcanic peak. The archipelago of the Moluccas is almost entirely under Dutch rule, its population amounts to 376,000 inhabitants.

7. Archipelago of the *Philippines*. It consists of four hundred islands, which are very hilly, very much indented, abounding in volcanoes, liable to earthquakes, but of prodigious fertility. It contains 6,000,000 inhabitants, the half of whom are under Spanish rule. This population is made up of savage native tribes in the interior, of Malays and Chinese on the coasts, and of from 5 to 6,000 Europeans. The largest island of the group is *Luzon*, one half of which is under the Spaniards, and has for its capital MANILA, a fine, large fortified town, at the head of a large bay, with a population of 140,000; the other half is independent and occupied by a savage race, the *Tagales*, who possess a written language. The second island in point of size is *Mindanao*, a small part of which belongs to Spain, the capital of which is SAMBOANGAN, a fortified town; the remainder is occupied by savages, addicted to piracy, the *Bissayos*, the *Mindanaos*, the *Soulous*, &c.; they are Mahometans and slave dealers. The Spanish possessions of the Philippines are very important in consequence of their admirable position between China, America, and Australia, with all of which they carry on an extensive trade; they are in a very flourishing state and have done much to civilize the natives. Spain maintains there an army of 20,000 men, mostly composed of natives, which form five regiments of infantry, one of cavalry, and eight companies of artillery.

§ III.—POLYNESIA.

1. Archipelago of the *Pelew* islands, divided amongst several tribes of savages, constantly at war with one another.

2. Archipelago of the *Mariane* or *Ladrones* islands. The five most southern islands only are inhabited, they are almost entirely under Spanish rule; the largest is *Guajan*, in which is the town AGANA, the seat of government.

3. Archipelago of the *Caroline* islands. It forms a long ribbon, lying east and west, containing several hundred islands. The inhabitants are savages, without any religious worship; their swift canoes are the most perfect known; they observe the stars, and have a sort of compass; they are skilful in weaving very pretty cloth, but though very warlike, they know no other arms beside the sling and the stone hatchet.

4. Archipelago of the *Mulgrave* islands, consisting of low islands peopled by savages.

5. *Sandwich* archipelago, the most isolated group in all Polynesia, and the extreme N.E. point of Oceania. These islands, all of volcanic origin, have peaks 15,750 feet high, and are very important owing to their position between the United States and China, their ports, and especially their inhabitants, who are a mild and industrious folk of Malay race, with great aptitude for commerce and civilization; they have lately embraced Christianity. They have already a regular government under the direction of British missionaries; schools, a printing establishment, a mercantile marine which trades to America and Asia, and even a small fleet of war. The largest of these island is *Hawaii* or *Owhyhee*, where Cook was killed in 1779; the most important is *Woahou*, whose capital is HONOLULU, a flourishing port, defended by two forts. Population, 80,000.

6. Archipelago of the *Mendaña* or *Marquesas* isles, hilly islands consisting of two groups, inhabited by savages, under the rule of the French, who have made settlements in the islands of *Noukahiva* and *Tahouata*. The country is fertile, the climate healthy, the coasts dangerous. Population, 20,000.

7. Archipelago of the *Society* islands. The best known group is that of *Tahiti*, the inhabitants of which live under a regular government, and have been half-converted by British mission-

aries. These islands, important by reason of their fertility, are now placed under the protection of the French, who have formed a military settlement at *Papeiti*. Population, 10,000.

8. *Dangerous* or *Pomotou* archipelago. The chief group is that of the *Gambier* islands, under French protection,

9. Archipelago of the *Navigator* or *Hamoa* islands, peopled by savages, skilled in navigation and some manufactures, part of whom are converted to Christianity.

10. Archipelago of the *Tonga* or *Friendly* islands, peopled by clever savages, of mild manners, who have lately embraced Christianity. Several tribes are cannibals.

11. Archipelago of the *Fiji* islands, inhabited by ferocious savages, constantly fighting with one another. They are skilful navigators, and display a great aptitude for the arts of Europe.

§ IV.—AUSTRALASIA.

1. *New Zealand*, consisting of two large islands, separated by Cook's Strait; together they measure 870 miles in length and 125 in breadth. They contain good ports, are fertile, and enjoy a European climate. They contain mountains of great height, covered with perpetual snow, and containing enormous glaciers. Mount *Cook* in the southern island is 12,362 feet high. The inhabitants, like those of Polynesia, are agriculturists, fishermen, and skilful in weaving cloth; they live in a perpetual state of war, and are cannibals. The British have taken possession of these islands, and have made settlements there, of which WELLINGTON is the chief town. Population, 175,000, of whom about 115,000 are Europeans.

2. *New Caledonia*. This island is 225 miles in length by 30 in breadth. Through it rises a chain of not very high hills; it contains some very fertile valleys. The inhabitants are negro savages. Since 1853 France has had a great penal establishment there. Its principal post is *Fort de France*.

3. *New Hebrides*, an archipelago inhabited by negroes of warlike character, and addicted to cannibalism; it is fringed by dangerous reefs and contains volcanoes.

4. *Salomon Islands* and *Archipelago of Santa Cruz*, volcanic, and peopled by negro savages. La Pérouse was shipwrecked on the island of Vanikoro, one of the latter group, in 1788.

5. *New Britain, New Ireland, Louisiade,* &c.; peopled by negroes of less ferocious character than those of the foregoing islands.

6. *Papua* or *New Guinea,* a large, hilly, and fertile island, peopled by negro savages.

7. *New Holland* or *Australia,* the largest island in the world, is 2,400 miles in length by 1,960 in breadth. Its animal and vegetable productions are peculiar to itself; the race of men inhabiting it seems not above the brutes in point of intelligence, and is only distinguishable from them by the possession of the power of speech. The coasts are usually arid, except on the east; the absence of deep bays and of rivers have prevented much exploration of the interior, which is mostly uninhabited. The largest river known is the *Murray,* which rises in some hills from 1,300 to 1,600 feet high; these hills skirt the east coast, and abound in gold mines. Australia belongs to the English, who have founded there five great colonies: 1, on the east, *New South Wales,* with 370,000 inhabitants, the chief town of which is SYDNEY (population, 80,000), the capital of Australia, situated in the haven of Port Jackson; 2, on the south-east, *Victoria,* pop., 570,000, important on account of its gold mines, capital MELBOURNE (population, 250,000), lying at the mouth of the Yarra; 3, *South Australia,* on the south, population, 140,000, capital ADELAIDE; 4, *Western Australia,* on the west, with only 18,000 inhabitants; 5, *Queensland,* on the north, with about 60,000 inhabitants, capital BRISBANE.—On the south, separated from Australia by Bass Strait, lies *Van Diemen's Land* or *Tasmania,* the indigenous inhabitants of which have all been expelled or destroyed. It is well watered, fertile, salubrious, contains excellent ports, and has 90,000 inhabitants. English criminals used to be transported thither, where they founded prosperous settlements; the capital, HOBART TOWN, has 25,000 inhabitants, and a very fine harbour.

BOOK VII.

AFRICA.

AFRICA is a large triangular peninsula, bounded on the north by the Mediterranean; on the east, by the Isthmus of Suez, the Red Sea, and the Indian Ocean; on the west, by the Atlantic Ocean; and on the south, by the Southern Ocean.

It lies between S. lat. 35° at Cape Agulhas and N. lat. 38° at Cape Bon, and between W. long. 17° 40′ at Cape Verde and E. long. 50° 20′ at Cape Guardafui. Its greatest length from the Cape of Good Hope to Cape Bon is about 4,475 miles; its greatest breadth from Cape Verde to Cape Guardafui is about 4,225 miles.—Superficial extent: 11,290,030 square miles.

Its rivers have three recipients: the Indian Ocean, the Atlantic Ocean, and the Mediterranean Sea.

§ I.—DIVISIONS OF THE SEAS.

1. *Indian Ocean.* It forms, by the Strait of Bab el Mandeb, the *Red Sea* or *Arabian Gulf*, which skirts the African coast without indenting it; and *Mozambique Channel*, between the island of Madagascar and the mainland.—Capes: *Ras Benass*, *Ras Bir*, *Guardafui*, *Delgado*, *Corrientes*.—Islands: *Socotra*, *Seychelles*, *Bourbon*, *Mauritius*, and *Madagascar*.—No other river of importance known besides the Zambesi.

2. *Atlantic Ocean.* It forms no gulf except the very open excavation termed improperly *Gulf of Guinea*. Its capes are very numerous: *Good Hope*, *Negro*, *Lopez*, *Gonsalvo*, *Formosa*, *Palmas*, *Roxo*, *Verde*, *Blanco*, *Bojador*, *Spartel*.—Islands few and small: *St. Helena*, *Ascension*, *Fernando Po*, *Cape Verde*, *Canaries*, *Madeira*.—Rivers: Coanza, Congo or Zaire, Niger, Gambia, Senegal.

3. *Mediterranean Sea.* It forms the gulfs of *Khabs*, or *Gabes*, and *Sidra* (Syrtis Minor and Syrtis Major), capes *Spartel*, *Tres Forcas*, *Bugaroni*, *Bon*, *Rasat*, *Bourlos*. A few islands. The only remarkable river is the Nile.

§ II.—DIVISIONS OF THE LAND.

The drearily monotonous coasts of these three seas, fringed by sandy deserts and barren mountains, without peninsulas or gulfs, with few harbours, islands, and rivers, teach us that Africa is a vast expanse of land without indentations, the framework of which must be simple, but hard to make out. Indeed the orography of this part of the world is unknown, and it is only by induction, and from very imperfect information, that we are led to believe that the African peninsula is a single plateau composed of contiguous terraces, arranged one above the other, and surmounted by chains more remarkable for their thickness than for their height. This plateau may probably be resolved into two others: the northern one, of elliptical form, the southern one, of triangular form.—The former appears to be a large, low terrace, opened on the N.E. by the Nile, on the S.W. by the Niger; bounded on the north from west to east by the chain of the Atlas; on the south from east to west by the El Komr and Kong mountains. It may be decomposed into: 1, *Basin of the Nile;* 2, *Watershed of the Gulfs of Sidra and Khabs;* 3, *Northern Watershed of the Atlas;* 4, *Sahara;* 5, *Basin of Senegambia;* 6, *Basin of the Niger;* 7, *Basin of Lake Chad.*—The latter appears to be a terrace not so broad, but longer and higher, which rests on two chains parallel to the coasts, which unite at the Cape of Good Hope; it may be decomposed into: 8, *Watershed of the Atlantic Ocean*; 9, *Watershed of the Indian Ocean.*

Thus the general character of the land is in accordance with that of the coasts, and presents the same uniformity: immense plateaus, sandy plains or morasses; few streams, and these often mere torrents dried up by the heat, or which lose themselves in the soil without any outlet; frightful deserts; extreme sterility and fecundity close to one another; a burning climate whose heat is only moderated by annual rainfalls, east winds, and the height

of the ground; gigantic plants and animals; savage and ferocious human inhabitants. Nature seems to have condemned this portion of the earth to be ever miserable and savage; with the exception of the countries bordering on the Mediterranean, which are under European influence, the whole continent is the inaccessible abode of immobility and barbarism; and in spite of the isolated endeavours of some intrepid travellers, old Africa is still to us a less known world than young America, or new-born Oceania.

§ III.—HISTORY OF THE GEOGRAPHY OF AFRICA.

In this barbarous Africa there is, however, a region which was the cradle of western civilization, a privileged region, whose marvellous history belongs to the history of the human family: we refer to the basin of the Nile. Mysterious Egypt endeavoured to open out and to civilize Africa: she explored the coasts of the Red Sea, extended her lights into Æthiopia, and would doubtless have pushed her beneficent conquests still farther, had not the Asiatic invasion checked her career. With her independence she lost her civilizing ardour, and under the Persian rule she commenced that retrograde march which has only been stopped in these our times.

At the other end of the Mediterranean shore, a Phœnician colony founded Carthage, which began to make the peoples inhabiting the watershed of the Atlas known, and even made some expeditions into the Atlantic to explore the African coast; but the relations of Carthage with the Numidians, Gætuli, and Mauri did not open up to her the interior of Africa, and her sea expeditions were barren of result.

Between the two focuses of civilization, lighted up by Egypt and Carthage, were the Greek colonies of Cyrenaïca, established on the coast of Libya.

The Romans destroyed Carthage, subjected the nations inhabiting the watershed of the Atlas, and implanted their own civilization among them; they also took possession of Cyrenaïca; lastly, Egypt, which had been delivered from the Persian yoke by Alexander, and which, under the Ptolemies, had become a Greek colony distinguished for its literature and trade,

also fell under the rule of Rome. At that time almost all the portion of Africa known to the ancients belonged to the Roman empire, and formed the following provinces: 1, Egypt; 2, Marmarica and Cyrenaïca; 3, Africa proper; 4, Numidia; 5, Mauritania. The two first belonged to the Eastern empire; the others to the Western empire. Nubia and Æthiopia remained independent, kept up their relations with Europe, and even turned Christians.

During the invasion of the barbarians, the watershed of the Atlas only was occupied by German races; these were the Vandals, who only ruled there a century (427-534). The country was then conquered by the Eastern emperors, and all northern Africa remained under their rule until the end of the seventh century. Then the Arabs overran Egypt and Cyrenaïca, on which they imposed their religion at the sword's point, and they extended their conquests all along the Mediterranean as far as the strait of Gibraltar. They also subdued Nubia, but failed to penetrate into Æthiopia or Abyssinia; and there then commenced, in the upper Nile basin, a strife between Islamism and Christianity which lasted eight centuries.

The Arabs established in Africa soon threw off the yoke of the Caliphs of Baghdad, and founded (800) on the watershed of the Atlas the two monarchies of the Aglabites and the Edrisites. These new states were overthrown by a descendant of Fatima, the daughter of Mahomet, called Moazeddin; the grandson of this personage conquered Egypt, and founded (908) a caliphate independent of that of Baghdad. The Fatimites ruled over Egypt until 1171, when Saladin, founder of the dynasty of the Ayubites, seized on the country; they also lost their possessions on the watershed of the Atlas, where several Arab states were formed. The Ayubites reigned in Egypt until 1250, and were overthrown by the Mamelukes, slaves of whom they had formed their bodyguard; the latter then founded the Turkish dynasty of the Baharites, to which succeeded in 1382 the Circassian dynasty of the Bordjites.

The monarchies of Africa proper and of Moghreb (Morocco), were overthrown (1051) by the Almoravides, barbarians from the great desert, who extended their sway from the Niger into Spain; it was under their influence that Mahometanism ex-

tended into Senegambia and the basin of the Niger; but it did little to civilize Africa, and in some places degenerated into a barbarous superstition. The empire of the Almoravides was destroyed in 1146 by the Almohades, and on its ruins several states arose, the chief of which were: the kingdom of the Merinides or Morocco, the kingdom of the Zianians or Tlemcen, the kingdom of the Abuhafsians or Tunis. The first still exists, but under a new dynasty, that of the Haousainites; the other two were overthrown (1504) by the retreat of the Moors of Spain into Africa, and by the conquests of the Spaniards all along the coast. At this period the Ottoman Turks were masters of Constantinople and Western Asia, and ruled over all Mussulman nations; they took Egypt from the Mamelukes (1517) and were called on by the Moors to aid them against the Spaniards. It was at that period that the three states of Tripoli, Tunis, and Algiers were established; they were vassals of the Ottoman empire, and infested the Mediterranean with their piracies.

In the meantime the Portuguese had undertaken their great voyages of discovery; they had successively discovered the coasts of Senegambia, Guinea and Congo, had doubled the Cape of Good Hope, established settlements in Mozambique, and sailed up as far as Abyssinia. But European ships did nothing beyond sailing round this bayless continent, where the rivers are no highways into the interior; no entrance was effected; the Portuguese founded colonies in Congo and Zanguebar, the French in Senegambia, the Dutch at the Cape of Good Hope; but these were mere trading stations of minor importance, which contributed little to a knowledge of Africa; and none interested themselves about this great quarter of the globe, except to get slaves from it, who were forthwith sent to cultivate American soil.

In the decline of the Ottoman empire, Egypt again fell under the rule of the Mamelukes, and was governed by twenty-four beys, vassals (often rebellious ones) of the Sultan of Turkey, who reduced this fine country to the last degree of misery and barbarism. The French conceived the project of restoring it to civilization, and in 1798 sent thither an army under the command of Bonaparte, who vanquished the Mamelukes, conquered the country, and commenced to colonize it. But they

were soon driven out by the Turks and British, and Egypt relapsed into anarchy, until the period when the Ottoman Porte sent thither, as Pacha, Mehemet Ali. This remarkable man, after exterminating the Mamelukes, endeavoured to continue the work of civilization projected by the French, and under his rule and that of his successors Egypt has become a new power, nominally tributary to the Ottoman empire, but actually independent, and, with the aid of European men and sciences, seems to have a great future before her.

The French expedition to Egypt directed the attention of Europe to Africa: isolated endeavours were made to become acquainted with this continent, and to find means to introduce commerce and the enlightenment of Europe. Mungo Park, in 1795 and 1805, explored Senegambia and the upper basin of the Niger; Bruce in 1790, and Salt in 1805 and 1810, visited Abyssinia; Lichtenstein and Burchell in 1803 and 1813 penetrated into the country of the Hottentots and Caffres; Tuckey sailed up the Congo; Bowdich explored the country of the Ashantees; Denham and Clapperton in 1822, and Laing in 1826, succeeded in reaching the mysterious Niger, the mouth of which was found by the brothers Lander in 1830. Livingstone, in 1856 and subsequent years, explored the basin of the Zambesi; and, lastly, Speke and Grant in 1863, and Baker in 1866, succeeded in tracing the Nile to its long-hidden sources. The governments associated themselves with the glorious attempts of some of these intrepid travellers; the slave-trade was solemnly abolished, and small colonies were formed with the object of civilizing Africa through the instrumentality of free negroes. But all their efforts have had but insignificant results, and the Colossus of barbarism seems to defy European enterprise. Still the conquest and colonization of Algeria by the French have excited new hopes for the exploration and civilization of Africa.

During the decline of the Ottoman empire, the regencies of Tripoli, Tunis, and Algiers made themselves actually independent, and continued to derange the commerce of the Christian powers by their corsairs. It was in vain that the Spaniards under Charles V., the French under Louis XIV., the British in 1816, had repeatedly punished the Algerines for their inso-

lence; their piratical practices continued as before. At length France, having been insulted by the Dey of Algiers, resolved to free Europe from these robbers; an army was sent in 1830, which seized on Algiers, and brought the Turkish rule to an end; but after that the country had to be wrested from the Arabs, and it was only after twenty years of hard fighting that Algeria was subdued, and its colonization could be effectively commenced.

Africa is peopled by very many and very imperfectly-known races, of whom we shall speak when describing the regions occupied by them.

Most of the inhabitants have no religion except fetishism. Mahometanism prevails in the lower basin of the Nile, the watershed of the Atlas, the greater part of Senegambia, the basin of the Niger, the basin of Lake Chad, &c. Christianity is the religion of Abyssinia and of the European colonies.

The population of Africa amounts to about 188,000,000.

§ IV.—BASIN OF THE NILE.

This basin is formed by the western watershed of the mountains of the Red Sea and Abyssinia, by the northern watershed of the mountains surrounding the Victoria and Albert Lakes, by the eastern watershed of the mountains of Darfur, and by the unknown heights of Nubia and Libya. General direction: south to north; length, 2,500 miles; greatest breadth, 870 miles; smallest breadth, 25 miles.—We shall include in the description of this basin that of the west coast of the Red Sea.

Enclosing Belt.—It is very imperfectly known, and commences at the low sand downs which form the Isthmus of Suez and unite the framework of Asia with that of Africa. Heights rising above 6,000 feet skirt the coast of the Red Sea as far as Nubia, when they unite with the *Langeb* hills, which follow the same direction from north to south, and near the port of Massowah join the *mountains of Abyssinia.* These latter have summits exceeding 12,000 feet, and form the eastern slope of the Ethiopian plateau; they run south, drained by the feeders of the Atbara and the Abai or Blue Nile, and proceed in the same direction to join the snowy mountains, including Mount

Kenia and Kilimanjaro, from whence the great reservoirs of the Nile are supplied. The southern boundary of the Nile basin is formed by the spurs of Kilimanjaro and a tableland of about 4,000 feet above the sea. The mountains on the west of the great lakes have only been viewed at a distance; they probably join the heights running through Darfur. It is supposed that these latter unite with unknown hills in Nubia and Libya, which form the western belt of the basin.

General Aspect.—This basin is unique in nature as in history: its extreme fertility and its glorious remembrances are equally owing to its river. "Egypt is a gift of the Nile," says Herodotus. It is divided into two distinct parts; the upper basin, a large plateau sloping towards the N.W., and having two precipitous sides, one towards the Red Sea, the other towards the interior of Africa: on the S.E. it is a country abounding in streams, intersected by beautiful valleys and high precipitous mountains; on the west it is skirted by a succession of deserts. The lower basin is a long narrow valley, in winter presenting the aspect of a delicious garden; in summer, a monotonous series of dry or inundated plains, scorched by the sun or agitated by the winds.

Course of the River.—The *Nile*, under the name of *Bahr el Abiad* (White River), is supposed to derive its source from a large lake on the south of the Equator, and at a height of 3,740 feet above the level of the sea, called by its discoverer, Speke, the *Victoria N'yanza*, which receives the drainage of a very high range of hills. The river issues from the north end of this lake, runs N.W. for about 200 miles, very much broken by cataracts and rapids; it then falls into another great reservoir, 1,000 feet lower than the first, called by its discoverer, Baker, the *Albert N'yanza*, which receives the drainage of another range of high hills, from 10,000 to 12,000 feet high. On issuing from the north end of this lake, the river flows from S. to N., through marshy and imperfectly-explored countries, passes GONDOKORO, a collection of miserable huts, the centre of the trade of the upper basin of the White Nile, which consists chiefly of ivory and slaves; receives on the left the *Bahr-el-Gazal*, which flows through the *Jour* country, and the *Kailak*, which waters *Donga*, a country inhabited by warlike negroes,

professing Mahometanism; on the right the *Sobat*, which waters *Dinka* and *Wallega*, countries very imperfectly known; it enters a hilly country covered with forests, and separates Kordofan from Sennaar, washes KHARTOUM, where it receives the *Bahr el Azrek* (Blue River). *Kordofan*, a country made up of deserts and oases, inhabited by semi-civilized negroes and trading Arabs, was invaded by the Egyptians in 1820, and remains under their rule. *Sennaar*, formerly a very powerful kingdom, founded by the Shillouks in the sixteenth century, and which ruled over all southern Nubia, was subdued by the Egyptians in 1822.

The Nile then waters the country of *Shendy*, tributary to the Viceroy of Egypt; it used formerly to be the most important portion of the theocratic state of *Meroë*, which for several centuries spread civilization among the barbarous countries around; near the town of SHENDY is a village where Ismail Pacha, son of the Viceroy of Egypt, and conqueror of Nubia, Sennaar, and Kordofan, was burned by the old King of Shendy. The Nile next bathes ASSUR, a village near the site of *Meroë*, so celebrated for its oracle of Jupiter and its pontiff-kings; it next flows through the country of *Damer*; a small state governed by Mahometan priests; the country of *Shaykieh*, inhabited by warlike Arabs, who in 1820 made a determined stand against the Egyptians; *Dongola*, a semi-barbarian and Mahometan state, of importance in the middle ages, subdued in 1820 by the Egyptians; the country of *Barabra*, where are found the ruins of some magnificent temples. It runs down its first cataract (from the sea) near the islets of *Philæ* (el Heif) and *Elephantine* (el Sag) and waters Egypt at *Assouan* (Syene), an advanced post where are crowded together ruins of the Pharaohs, the Romans, and the Arabs, and where the inundations of the river begin. From Assouan to Cairo, the valley of the Nile is not more than seven miles, sometimes less than a mile in breadth; of the two chains of mountains that bound it, one extends as far as the Red Sea, the other is lost in the deserts of Libya; the former presents the appearance of a perpendicular cliff, the latter is accessible by a slope more or less steep. From Syene to Sheikh Abadeh or Enseneh (Antinoopolis) the rocks on the right bank are hollowed out into numerous natural grottoes, and on the east

the sandy desert extends nearly to the Red Sea; this is the *Thebaïs* of the hermits of the fourth century.—After *Assouan* the river washes EDFOU (Apollinopolis magna), where there are some superb ruins; ESNE (Latopolis), the place of resort of the Darfur and Sennaar caravans; LUXOR, KARNAK, and GOURNAH, miserable hamlets in the midst of the ruins of THEBES (Diospolis magna); this famous town was in its greatest splendour under the Pharaohs, between 1800 and 1300 B.C.; ravaged by Cambyses and Ptolemy Philometor, it was utterly destroyed by Cornelius Gallus in the year 28 B.C.: its mere ruins impress the imagination with amazement, they are the most magnificent in the world. The Nile then passes KEFT (Coptos), formerly the mart of the commerce of Egypt with India by the port of Berenice; KENNEH (Cænopolis), DENDERAH (Tentyris), a village remarkable for its ruins; GIRGEH, near which are the ruins of Ptolemaïs; ES SIOUT (Lycopolis), capital of Upper Egypt. Here the heights on the left bank commence to retreat westwards, so that between them and the cultivated valley there is a desert space, that becomes ever wider until at length it becomes confounded with the interior oceans of sand; there are several oases in it.—The Nile then washes MANFALOUT; SHEIKH ABADEH (Antinoopolis); MINIEH (Cynopolis); BEHNESEH, a village on the site of Oxyrinchus; BENISOUEF, commercial and manufacturing, battle of 1799, won by Desaix over the Arabs; ATFIEH (Aphroditopolis). Between these two last-named towns it receives a canal which brings to it the waters of *Birket-el-Korn* (Lake Mœris), and on which lies MEDINET EL FAIOUM (Crocodilopolis or Arsinoë); it then washes MITRAHINEH, a hamlet on the site of MEMPHIS, the second capital of the Pharaohs, sacked by Cambyses, ruined by the establishment of Alexandria, utterly destroyed by the Arabs in 640. It then runs through CAIRO (El Cahireh), a very large city, capital of Egypt, with a citadel commanded by Mount Mukkatem; built by Caliph Almanzor in 990, taken by the French in 1798. Population, 265,000; BOULAK, a manufacturing and commercial town, regarded as the port of Cairo; GYZEH, where are the famous pyramids, near which Napoleon beat the Mamelukes in 1798.—Below this town the Nile divides into several branches, by which it falls into the Mediterranean; the chief of these are the Rosetta

branch (Bolbitine) on the west, and the Damietta branch (Phatnitic) on the east. On the former lie: Sa-el-Hadjar, a village on the site of Sais, the ancient capital of the Delta; Ramanieh, where the Mahmoudy canal terminates, which goes from Alexandria to the Nile; Fouah, a large commercial town; Rosetta (Bolbitine), a decayed town, near the latter we find Matarieh, a village on the site of Heliopolis; battle of 1800, won by Kleber over the Turks; on it Mansourah, famed for the battle of 1250 and the captivity of St. Louis; Damietta, a small town of importance commercially, built five miles from the ancient Damietta (Tamiathis), so celebrated in the days of the Crusades, and which was destroyed in 1254. The rich country enclosed by these branches, which is called *Delta*, was in former times bounded on the west by the Canopic branch, now confounded with the Mahmoudy canal and Lake Etko, on the east by the Pelusiac branch, now converted into muddy channels; but there are now several secondary branches which terminate in vast and changing lagoons, and on which several remarkable places are found: Tantah, a very busy commercial town; Menhallet, a decayed town, but still important on account of its manufactories; Belbeis, on the Menoudje canal, fortified by Bonaparte in 1798; Salahieh, a military post, &c.—The principal lagoons into which these branches run, are: 1. Lake *Mariout* (Mareotis), formerly dried up, but which was flooded with the water of the sea and river in 1801 by the British in order to shut up the French in Alexandria; on the tongue of sandy land which separates this lake from the sea, and which is actually the ancient mole that connected the island of Pharos to the mainland, lies Alexandria, founded by Alexander in 330 B.C., the capital of Egypt under the Ptolemies and the Romans, the greatest city in the world in a commercial point of view for six centuries, with a population at that time of 700,000; it is at present a very prosperous town, and a stronghold with two tolerable harbours and an arsenal; it was taken by the French in 1798. The modern town is to the north of the old town, which is now a collection of ruins, gardens, huts, &c. It is connected with Cairo and Suez by railways.—2. Lake of *Aboukir* or *Madieh*, formed in 1778 by an inroad of the sea; its roadstead is celebrated for the battle of 1799, in which Bonaparte destroyed the

Turkish army. The castle of Aboukir was taken from the French by the British after a sanguinary battle in 1801, the bay of the same name is renowned for the naval battle in 1798, when the British defeated the French. 3. Lake *Etko*. 4. Lake *Bourlos*, full of islets inhabited by a wild race of fishermen. 5. Lake *Menzaleh*, the largest of all; it is bounded on the right by a narrow strip of low land and communicates with the sea by two practicable openings, which are the Mendesian and Tanitic mouths of the ancients; to the south of this lake are the ruins of *Pelusium*, one of the keys of Egypt in ancient times, and on the west the ruins of *Tanis*, the capital of the Pharaohs. The depth and rapidity of the Nile vary with the seasons; when the water is at its ordinary height it allows vessels of 60 tons to go up as far as the cataracts; when the water is high, caravals of 24 guns can sail up to Cairo; during the inundations one can sail from the cataracts to the sea in eight days. The navigation of the mouths is very difficult. The inundation of the Nile commences at the summer solstice; it attains its greatest height at the autumnal equinox; the river is lowest at the winter solstice.

Tributaries. The Nile has no tributaries except in its upper basin, and those on the right are the only important ones.

1. The *Bahr-el-Azrek* (Blue River) issues from Lake *Dembea*, which is 75 miles long, and 6,250 feet above the level of the sea; it then describes an almost circular course from N.W. to S.E., and then to N.W. through Gojam, from whose hills it receives numerous tributaries; it washes SENNAR, a large town founded by the Shillouks, capital of Upper Nubia, and ends below Khartoum. In the basin of Lake Dembea lies GONDAR, formerly the capital of the Abyssinian empire, and DEBRA TABOR, the present capital.

2. The *Tacazze*, *Settit* or *Atbara* (Black River) rises in the mountains of Lasta, skirts the terrace of *Tigre*, the most interesting part of Abyssinia, where were fought the great battles between the Christians and the Mahometans; descends into the *Mazaga*, a country of forests and morasses, one of the most fertile and unhealthy spots in the world, which forms an almost impenetrable frontier to Abyssinia; it is inhabited by the *Shangallas* (negroes), savages who live in woods and caves and are

constantly at war with the Abyssinians. Thence the Tacazze enters the plains inhabited by Arab hordes, leaving on its left the district called by the ancients *Island of Meroe*, which is bounded by the White Nile, the Tacazze, and the Blue Nile, In its upper basin lies ANTALO, capital of the kingdom of Tigre, and AXUM, a ruined city, the ancient capital of the Abyssinian kings, which was the first to adopt Christianity, and whence civilization spread over the whole plateau. While the Nile is kept at its usual level by the constant supply of water from the great reservoirs of the White Nile, its periodical inundations are caused by the rainfall in the Abyssinian highlands, conveyed to the Nile by the Bahr-el-Azrek or Blue river, and the Atbara or Black river, which supply little or no water in the dry season.

Coast of the Red Sea. It offers nothing but precipitous gulleys, barren sands, and inaccessible cliffs. The Abyssinian part contains only burning and sterile plains, inhabited by tribes of Mahometan savages, the enemies of the Abyssinians, and the holders of the defiles leading to the plateau; we there find the small port of MASSOWAH, of great importance, seeing that it is the principal point whence Abyssinia may be penetrated from the sea; it is now in the hands of the Egyptians, who have fortified it strongly; a little to the south of it is *Annesley Bay*, the point of debarkation of the British troops in 1867, for the Abyssinian war. The Nubian part of the coast is occupied by nomadic Arabs; we there find the port of SUAKIN, which belongs to the Viceroy of Egypt, and is the most frequented on this coast. The Egyptian part also contains the ruins of BERENICE, a flourishing port in ancient times; COSSEIR, a small port; lastly, SUEZ (Arsinoë), at the head of the gulf of the same name, a small port destined to become a most important place if the canal for connecting the Red Sea with the Mediterranean should be completed. Its harbour is much frequented by vessels arriving from India and China.

Political Divisions.—*Habesh* or *Abyssinia* (Æthiopia) was formerly a great empire, occupying the S.E. plateau of the upper basin of the Nile. Surrounded on all sides by very lofty mountains, with but few defiles, it succeeded in maintaining its independence and civilization in the midst of heathen and Mahometan savages, who have been constantly attacking it for

ten centuries. This country enjoys a moderate temperature and a magnificent vegetation; it is peopled by a race of strong, intelligent, and warlike men; separated from all Christian countries since the invasion of Islamism, it has adhered obstinately to its Christianity, which it embraced about the year 330, but which has done little to assist its civilization, disfigured as it is by Jewish practices, Greek heresies, &c. In the sixteenth century the Portuguese attempted to attach this interesting country to the great family of Christendom; but the intolerance of their missionaries led to their expulsion from Abyssinia, which since that time has remained completely isolated from Europe. At the commencement of the nineteenth century, the savage tribes of the Gallas invaded the greater portion of its provinces, and the country, delivered over to anarchy, split into several states. The most powerful was the kingdom of *Tigre*, whose sovereign long held in captivity the family of the ancient emperors. The most central is *Amhara*, the capital of which is GONDAR. The most southern is the kingdom of *Shoa*, with which France has recently engaged in trading operations; its capital is *Ankober;* its ports, *Tajurrah*, *Berbera*, and *Zeylah;* its chief river is the *Hawash*, which ends in Lake *Abhebbad*, near which is Lake *Assal* (760 feet below the level of the sea). This country is constantly at war with the Gallas.

2. *Nubia*, a country of plains and deserts, is inhabited by an unwarlike and idolatrous race of negroes, who form several small states subject or vassal to Egypt.

3. *Egypt*, a vice-royalty tributary to the Ottoman empire. Since the despotic and enlightened rule of Mehemet Ali, this country possesses a regular administration, orderly financial system, money of fixed value, schools, printing establishments, steam engines and vessels, railways, telegraphs, a disciplined army, an arsenal after the model of the European arsenals, manufactures of all sorts, excellent methods of agriculture, &c. Almost all these innovations have been effected by Europeans. The Egyptian army, the best in any Mahometan state, numbers 14,000 men; the fleet is composed of 26 ships; the revenue amounts to 8,000,000*l.*—A great number of diverse races inhabit Egypt; the chief of these are: 1, the *Copts*, who are probably descended from the ancient inhabitants, and do not

exceed 200,000; 2, the *Arabs*, who form the majority of the population; they are agriculturists, shepherds, fishermen, and in some parts nomadic; they are called *fellahs*, and generally live in great poverty; 3, the *Turks*, *Mamelukes*, *Albanians*, &c. These races make up a population of 5,000,000, inclusive of the vassal countries.

§ V.—WATERSHED OF THE GULFS OF SIDRA AND KHABS.

The western belt of the Nile basin becomes united, about the Natron Lakes, with a series of indistinct heights, which run from N.E. to S.W. as far as the oasis of Siwah; from this oasis to that of Aujilah, these heights become naked and precipitous mountains, rising up in the midst of calcareous plains. After these mountains, in the desert of *Harudje*, comes a range of wild basaltic peaks, called *Jebel Waddan*, which runs from S.E. to N.W., through the state of Tripoli, and joins the *Gharian* hills, from 3,300 to 3,900 feet in height; the latter are prolonged along the coast in the form of sandy hills, which strike the Atlas range on the north of Lake Kairwan.

This watershed consists of nothing but great sandy deserts, with some patches of fertile land near the coast. It sends no streams into the Mediterranean. It may be divided politically into three parts: 1, Barca country; 2, Regency of Tripoli; 3, part of the Regency of Tunis.

1.—BARCA COUNTRY.

This country is under the rule of two Beys, dependent on the Dey of Tripoli.—The Bey of *Dernah* has the coast, formerly very fertile, but now uncultivated and devastated by the nomadic tribes of the interior: it is the *Cyrenaïca* of antiquity, a Greek colony famous for its large towns and monuments; CYRENE, now called GRENNAH, is nothing but a wretched hamlet. The Bey of *Benghazi* rules over the whole interior, and has for his capital a maritime town, BENGHAZI, built on the ruins of Berenice. There are some oases in this region; that of *Siwah* (Ammonium) was famed in ancient times for its temple of Jupiter, which Alexander the Great visited; it is now dependent on the Viceroy of Egypt; that of *Aujilah* is tributary to Tripoli.

2.—REGENCY OF TRIPOLI.

This is a country without water, scorched by the heat, moderately fertile, with an unhealthy climate; the interior is almost entirely desert land, and the coast, which in ancient times possessed flourishing towns, such as *Leptis Magna*, *Tenchyra*, *Ptolemaïs*, has now only TRIPOLI, the capital of the state, a commercial town, moderately protected by a fort and batteries; it was taken by Roger of Sicily, Charles V., the Knights of Malta, &c.—The state of Tripoli, governed by a Dey, who is a vassal of the Ottoman empire, is the most extensive and the least important of the ancient barbaric regencies; its navy consists of only a few xebecs.

§ VI.—NORTHERN WATERSHED OF THE ATLAS.

The general name of *Atlas* is given to the range of mountains extending from Cape Bon in the Mediterranean to Cape Ghir in the Atlantic Ocean; and which covers with its ramifications all the country comprised between the two seas and a line drawn from cape to cape.

The system of the Atlas is not well known. Like all the mountainous masses of Africa, it is composed, not of distinct and uniformly aligned chains, but of a series of groups isolated or connected only by their bases. These groups are generally parallel to the coast, rise one above the other, enclose in their midst several plateaus or deserts, and present many gaps to allow the streams to pass.

It is usually subdivided into three nearly parallel parts: 1, the *Little Atlas*, which extends from the stream of Bougie to the mouth of the Shelif, a distance of 220 miles; it is very close to the coast, not more than 30 miles distant from it. Its most important parts are: the *Jurjura* (6,560 feet), the ramifications of which cover Great Kabylia, and the portion of which that is nearest to the sea is called *Jebel Tamgut*, between Bougie and Dellys; the *Mouzaïa*, which looks on the great plain of Mitija; the *Jebel Zakkar*, in the country of the Beni Menacer, between Cherchell and Milianah; the *Dahra* mountains, a rocky ridge lying between the Shelif and the sea. The Little Atlas

belongs entirely to Algeria. It is crossed by several roads: 1, from Algiers by the Khachna to Aumale; 2, from Algiers to Medeah by Blidah; this is the finest road in Algeria: it is 75 miles long; 3, from Algiers to Orleansville by Blidah and Milianah; 4, from Cherchell to Milianah by the Beni Menad; 5, from Tenez, by the Beni Madoun to the Shelif.

2. The *Middle Atlas* commences at the Gulf of Tunis and ends at the Strait of Gibraltar; it is from 15 to 45 miles distance from the coast. Its highest summits are supposed to be about 10,000 feet high; but its average height is not above 5,000 feet. Its principal parts are the *Ghorra*, to the south of La Calle; the *Jebel Beni Salah*, to the south of Bona; the *Mahuna*, near Guelma; the mountains of *Constantine*, whose numerous spurs spread very confusedly as far as the coast, and form the *Edough* mountains on the west of Bona, and the *Goufi* mountains between Collo and Jijelli; the *Babor*, on the north of Setif, the rude spurs of which compose Little Kabylia; the *Bibans*, which is crossed at the *Iron Gates* by the road from Constantine to Algiers; the *Dirah*, on the south of Aumale, with which are connected the *Ouennougha* mountains, of which we shall speak presently; the *Titri* or *Keburiah* mountains, the spurs of which skirt the Shelif and unite at the Little Atlas; there the groups of the Middle Atlas are cut by the channel of the Shelif, and are continued by the very dense and very widespread range of the *Ouenseris* or *Ouaransenis*, which stretches out between the Shelif and its two tributaries, the Nahr Ouassel and the Mina; this is the most difficult, the most distorted, and the highest part of the Atlas range. Beyond the Mina, the Middle Atlas is continued by several series of very confused groups running parallel with one another from east to west, the principal of which are: on the north, the *Mascara*, *Jebel Tessala*, and *Mejuna* mountains, among the Beni Amer, and the *Traras* mountains on the frontier of Morocco; on the south, the *Yacubia*, *Jafra*, and *Tlemcen* mountains; there these groups are cut by the Tafna and Mulouïa, beyond which they are prolonged in Morocco by the *Rif* mountains, as far as the strait of Gibraltar.—The mountains of the Middle Atlas are crossed by several roads: 1, from Bona, by Guelma to Constantine; 2, from Philippeville, by El Arrouch, to Constantine; 3, from

Constantine, by Setif, the Iron Gates, and Aumale, to Algiers; 4, from Milianah, by Teniet el Had, to Tiaret: it crosses the most confused parts of the Ouaranseris; 5, from Mostaganem, by Mascara, to Saïda; 6, from Oran, by Sidi-bel-Abbes, to Tlemcen; 7, from Oran, by Aïn Temouchen, to Tlemcen, &c.

3. The *Great Atlas* extends from Cape Bon to Cape Ghir; very little is known about it; it rises in some parts to a height of 8,200 feet. Its chief groups are: the *Jebel Barku*, in the country of Tunis; the *Tebessa* mountains; the *Aures*, an immense block composed of three chief groups; the *Eastern*, *Western*, and *Northern Aures*, between which lies the plateau of *Acoul*. This block is prolonged to the north by the *Bellezma* mountains, where the Great Atlas divides into two series of groups: one runs northwards to join the Middle Atlas, under the names of *Bellezma*, *Bou Taleb*, *Kellûf*, and *Ouennougha*; between these mountains, those of the Northern Aures, the Tebessa mountains, and those of the Middle Atlas, is the immense table-land called the plateau of the *Mejanah* or of the *Sbakhs*. The other runs S.W., and has the following principal groups: the *Jebel Bou Kahil*, *Jebel Zaccar*, *Jebel Amour*, *Jebel Runjaïa*, mountains of *Haskura*, &c. Between the four first groups and the Middle Atlas are a number of plateaus and deserts, the *Hodna*, the *Serson*, the *Shott* country. Few roads cross the Great Atlas: 1, from Constantine, by Bathna, to Biskara; 2, from Setif, by Msilah, to Bouçada.

The rivers of the Atlas have not the same importance, and do not play the same part as those of Europe: they are physical accidents of a secondary character. Almost all have a very short course; none are navigable; most of them are mere torrents, dry in summer. They form no great basins, have no well-marked enclosing belt, flow through no broad valleys; but they roll confusedly through a rugged country, without definite direction or distinct channel, often without even a name, winding with difficulty through the mountains which oppose their course; they open up no natural roads, they have not those deep mouths where ports may be readily established; lastly, they rarely have towns on their banks; they are unable to attract either population, cultivation, or civilization.

The coast is usually lofty, and the most indented of any in

Africa, and yet it contains no good ports and but indifferent roadsteads; it has no islands.

The northern watershed of the Atlas is divided into two distinct parts: the *Tell*, or grain country, which is, generally speaking, included between the Little and Middle Atlas; the *Sahara*, or date country, which, generally speaking, occupies both watersheds of the Great Atlas.

The *Tell* is the habitable country, capable of being cultivated throughout almost its whole extent. It is watered by streams, brooks, and springs; it produces cattle, sheep, and grain; it contains within itself all the elements necessary for life; it is peopled by agricultural labourers and shepherds.

The *Sahara* is the country for dwelling in and passing through, composed of barren wastes and oases; capable of cultivation only on a small part of its expanse. It is furnished with wells; it produces food on its wastes, and grows fruits in its oases; it obtains from the Tell what it requires besides for the support of life, and buys from it chiefly corn and wool; it is peopled by gardeners and shepherds.

The watershed of the Atlas is politically divided into: 1. Regency of Tunis; 2, Algeria; 3, Empire of Morocco.

1.—REGENCY OF TUNIS.

The Tunisian Sahara is a barren, hilly desert; we find there the small port of KHABS or CABES; the Tell is populous and well cultivated. On the coast we find: 1, HAMMAMET, at the top of the gulf of the same name.—2. LA GOLETTA, a small town remarkable for its fortifications, its roadstead, its dockyards, its magazines, &c., lying at the entrance to the lagoon or boghaz of Tunis.—3. TUNIS, at the head of this lagoon, capital of the state, a fortified, commercial, and manufacturing town, with a good harbour, defended by strong works; pop., 50,000; it was besieged by St. Louis in 1270, and taken by Charles V. in 1535. Near this town lay CARTHAGE, founded by the Phœnicians, destroyed by the Romans, rebuilt by them, and made the capital of Roman Africa; ruined by the Vandals, destroyed by the Arabs.—4. PORTO FARINA, a good port at the mouth of the Mejerdah, an unnavigable stream which divides Tunis from Algeria, and ends in the Gulf of Tunis.—5. BYSERTA (Hippo-

zaritus), formerly famed for its piracies.—6. TABARCAH, a small fortress on an island at the mouth of the *Zaine*, near the boundary between the Regency of Tunis and Algeria.—The state of Tunis is pretty well civilized and very populous; its inhabitants have mostly abandoned piracy, and devote themselves to agriculture. The Dey, nominally a vassal of the Ottoman empire, has become actually quite independent since, thanks to French protection, he has made his power hereditary; and, in addition to a navy and arsenal, he has raised an army of 20,000 men disciplined by French officers.

2.—ALGERIA.

The space in Northern Africa, occupied by Algeria, is a zone bounded on the one hand by the Mediterranean from Cape Roux to the mouth of the Wady Kiss; on the other, by an uncertain and tortuous line, separating the Sahara from the great desert, whose most northern part is marked by the oasis of Mzab; its distance from the coast is from 310 to 370 miles. It lies between N. lat. 32° and 37°, and between E. long. 8° 50′, and W. long. 1° 40′. Superficial extent, 146,724 square miles, of which the Tell has 53,243.—Length of the coast, 560 miles.—Distance from Marseilles to Algiers, 500 miles; to Oran, 615; to Bonah, 463; to Philippeville, 449.—Temperature, from 90° to 104° in summer; from 52° to 67° in winter.

The Algerine Tell is a mountainous zone of from 50 to 75 miles in width, composed, not of distinct chains, but of very tortuous and confused groups, traversed by gaps through which the torrent-like streams rush. This zone is intersected by small fertile valleys, gentle slopes, and magnificent plains; the soil of the plains is light and sandy, that of the valleys rich and moist; the flanks of the hills are covered with olive-trees and small woods. It is one of the most fertile countries in the world; it was one of the granaries of the Roman Empire. All the Tell is under French rule. Its limits are principally marked by the following points: *Tebessa*, *Biskra*, the almost continuous crest of the Middle Atlas, from the Jebel Taled to the Jebel Keburiah, *Thaya*, *Tiaret*, *Saïda*, *Daya*, *Sebdou*.

The Sahara is not a bare, barren, blasted, sandy desert, over which beasts of prey roam; it is a country of moorlands, pasture-

grounds, oases, brooks, ravines, and rounded knolls, containing settled and nomadic populations, both equally attached to their native land. It is divided into two parts by the groups of the Great Atlas; the northern part is a region of moorlands, generally sterile, uninhabited, through which run a few streams that fall into salt lakes called *Shott* and *Sebkha*. The southern part abounds in springs and oases; it is made up of great plains and broad basins, whose bottoms are filled with marshy or saline lakes. It is subdivided into the country of the *Ksours* and the country of the *Zibans*.

1. The population is divided into:—1, *Kabyles* or *Berbers*, who are believed to be the descendants of the Numidians and the ancient inhabitants of the country; they chiefly inhabit the mountains and are mostly concentrated in the parts called Great and Little Kabylia. They are a fierce, warlike people, passionately tenacious of their independence, and were never subjugated either by the Romans, Arabs, or Turks, and they are still what they were in the days of Jugurtha, brave, intelligent, sober, and industrious. They are a settled people, cultivators of the soil and manufacturers, chiefly devoted to working mines and the manufacture of iron. Their various tribes form a kind of small federal republics, whose chiefs are elected. They were the last to submit to French rule. Their population is believed to amount to 1,400,000.

2. The *Arabs*, descendants of the ancient conquerors of Mauritania; some are cultivators of the soil and settled, others are shepherds and nomadic. They inhabit chiefly the region of plains and oases. They are warlike, proud, intelligent, sociable, much attached to their country, and especially to their religion. Their submission to the Turks was always very doubtful, and it has only been by dint of hard fighting and many defeats that they have consented to recognize the French rule. The Arabs and Kabyles are enemies; their language, manners, and institutions are different; but their religion is the same. The Arab population is reckoned at 1,230,000.

3. The *Moors* are descended from the Mauritanians, mingled with all the races of people who have at various times conquered the country; they are proprietors, traders, and live in the towns. This portion of the population had least repugnance to

the French conquest; but they are cowardly, perfidious, not very numerous, and altogether without influence. Population, 80,000.

4. The *Jews*, distributed everywhere, regarded the French conquest with pleasure; they are active and mild, but avaricious and dishonest. Population, 36,000.

5. The *Turks* and *Kolouglis*, or offspring of Turks and Arabs, the remnants of the ancient rulers of Algeria; they are brave and loyal, and have enrolled themselves in the ranks of the French army. Population, 20,000.

Algeria is divided into three provinces: that of Constantine, measuring 67,570 square miles, with a population of 1,375,000 natives, and 43,000 Europeans; that of Algiers, measuring 43,631 square miles, with a population of 855,000 natives, and 85,000 Europeans; that of Oran, measuring 39,384 square miles, with a population of 547,000 natives, and 64,000 Europeans. Total native population, 2,807,000. Total European population, not counting the army, 192,000, of whom 95,000 are French.

This division into three provinces is not solely an administrative one, it is formed chiefly upon the political and social state of the Arab and Kabyle tribes inhabiting them. In the province of Constantine, influence and power belong hereditarily to certain lay families; in the province of Oran, influence and power belong hereditarily to certain religious families. In the province of Algeria, the tribes of the western part are subjected to theocratic influence; those of the southern part, to aristocratic influence; those of the northern part, to democratic influence. Owing to this difference of social constitution it has happened that, under the Turkish government, the authority of the Deys was disowned by the tribes subject to democratic sway, that is to say, in Kabylia; it was disputed by the tribes under theocratic rule, that is to say, in the province of Oran and part of the province of Algiers; it was acknowledged by the tribes under aristocratic rule, that is to say, in the province of Constantine. The establishment of French rule has encountered the same facilities and the same obstacles; thus it has been readily established in the province of Constantine, where eight hereditary sheikhs divide among them one half of the territory,

and submitted almost at once; it was long and vigorously combated in the province of Oran, which gave birth to the purely religious power of Abd el Kader; lastly, it is only quite lately that France has undertaken to effect the conquest of the two Kabylias.

Each of the provinces of Algeria is subdivided for administrative purposes into *civil territories* and *military territories*. The military territories are those in which the European element, being completely swallowed up by the great preponderance of the native element, the administration is entirely in the hands of superior officers, assisted by *Arab bureaux*,* for all affairs specially affecting the natives.

The civil territories are those in which the European element being more developed, the administration is confided to civil functionaries. The collective civil territories of each province form a department, which again is subdivided into arrondissements, communes and territories administered by civil commissaries.

Algeria is divided into three military divisions, whose chief towns are Blidah, Oran, and Constantine.

The division of Blidah contains six sub-divisions: Blidah, Algiers, Aumale, Medeah, Milianah, Orleansville; the division of Oran contains five sub-divisions: Oran, Mostaganem, Sidi-bel-Abbes, Mascara, Tlemcen,; the division of Constantine contains four sub-divisions: Constantine, Bona, Batna, Setif.

We shall now proceed to describe Algeria in the following order: 1, Coast; 2, Basins of the Tell; 3, Sahara.

§ 1.—*Coast.*

The coast is indented by bays open to every wind, among which we notice those of *Bona*, *Stora* (Sinus Numidicus)

* The Arab military bureaux are charged, under the control of the commandants of divisions, subdivisions, and circles, with every matter affecting the government and administration of the tribes, with the direction and supervision of native agents, of the taxes, police, works of public utility, &c. There are 3 divisional bureaux connected with the commandants of the 3 provinces, 12 first-class bureaux connected with the commandants of subdivisions, 18 second-class bureaux connected with the permanent chiefs of posts, &c. About 150 officers and non-commissioned officers are attached to the Arab bureaux.

between Capes Fer and Bujarun), *Bujeiah, Algiers, Arzeu.* The capes are numerous: *Rosa, Garde, Fer, Bujarun, Cavallo, Carbon, Corbelin, Bengut, Matifou, Caxine, Tenez, Ivi, Ferrat, Falcon, Figalo,* &c.

The ports and coast defences are:

1. La Calle, a small fortress perched on an isolated rock at the head of a bay. It is the centre of the coral fisheries established by France on this coast since the sixteenth century. It was abandoned during the Revolution, occupied by the British from 1807 to 1816, destroyed by the Turks in 1827, re-established and occupied by the French in 1836.

2. Bona, a small town with a good harbour, lying on the east side of the gulf of that name, and built of the ruins of Hippo Regius, which was some distance off on the Seybous. A citadel (Kasbah), 980 feet from the town, commands the shore and the roadstead; four other forts guard the approaches; taken by the French in 1832; population, 12,000. The population of the neighbouring country, industrious and peaceable, readily submitted to French rule. The country they inhabit is fertile, rich in iron mines and forests.

3. Stora, a small town built on the ruins of Rusicada, which cover the whole coast; it has a pretty good anchorage. Near it, and about the mouth of the Safsaf is Philippeville, founded in 1838, a stronghold, the chief town of a prefecture, 8,000 inhabitants; its port is at Stora, and from it runs a fine road which is the shortest way to Constantine. This road passes El Arouch, and Smendou, and is 62 miles in length.

4. Collo (Collops Magnus), a small town defended by a bad castle; it is a port much frequented by French traders, and serves as the outlet to Constantine; the hills around are covered with wood useful for building purposes.

5. Jijelli, a small port on a rocky peninsula, near which the French landed in 1664, when Louis XIV. wished to make a settlement in Africa; it has a good anchorage.

6. Bujeiah or Bougie, a small fortified town with a good harbour, the ancient capital of the Vandal kingdom, one of the sacred towns of Islamism in the middle ages; taken by the Spaniards in 1509, who built there fort Moussah and the Kasbah or citadel; taken by the French in 1833. It is commanded by

Mount *Gouraya* (2,200 feet), on which the French have built a fortress; population, 2,000.

7. DELLYS, a small fortified town, with a harbour; it is the port of Kabylia.

8. ALGIERS, chief town of the French possessions in Africa; population 45,000, of whom 30,000 are Europeans. This town occupies an amphitheatre on the slope of a hill, at the top of a great bay, whose extremities are Capes Matifou and Pescade, and which has no protection against the north winds; in shape it is a sort of equilateral triangle, the perimeter of which is not above 2 miles; one of its sides rests on the sea, and at the opposite angle is the Kasbah or citadel, which commands the town. Its harbour, much frequented, but small and of no great depth, can only admit merchant vessels, but a harbour for ships of war has been constructed by means of a long jetty. Algiers is well defended from the sea side by the *Marine* forts, constructed on a small rocky island, which closes the harbour on the north, and is connected with the mainland by a mole 13,120 feet in length; on this island are the arsenal and dockyards. On the land side Algiers has a bastioned wall, which terminates at the sea, on the east by Fort *Babazoun*, on the west by Fort *Vingt-quatre-Heures*; as an exterior work it has Fort *Emperor*, 650 yards distant, on a mound about 690 feet in height; the capture of this fort by the French brought about the capitulation of the city in 1830. The forts and batteries defend the coast east and west of Algiers: on the east are the *Matifou*, *Water*, and *Babazoun* forts, besides several batteries; on the west, the *Vingt-quatre-Heures*, *English*, and *Pescade* forts.

Algiers lies on the eastern flank of a group composed of small regular hills, forming a sort of mountainous peninsula, of almost circular form, of which Mount *Bouzaria* (1,335 feet) is the highest point, and which separates the mouths of the Harach and Mazafran. This group is intersected by ravines, and fertile and picturesque valleys; on the south it is studded over with many villages: 1, *Maison-Carrée*, a post that protects the passage of the Harach and commands the plain; 2, *Birkadem*, *Mustapha*, *Douceira*, ancient camps, now populous communes.

On the south of the Algiers group stretches out the plain of *Mitidjah*, 40 to 44 miles in length by 12 to 15 in breadth. It

is bounded on the south by the Little Atlas, on the east by the sandy downs through which the Harach runs at its mouth, on the west by the low hills of Sahel, through which the Mazafran flows. Very fertile and highly cultivated in the vicinity of the hills; it is marshy in its lower part. The Harach and Mazafran flows through it.

9. SIDI-FERRUCH is a small peninsula, famous for the landing of the French in 1830. Near it and in the Algiers group is STAOUELI, where the French defeated the Algerines in 1830.

10. CHERCHELL (Julia Cæsarea), a small town with a pretty good harbour, built near the ruins of the Roman town that commanded Central Mauritania. Taken by Doria in 1531. It has been occupied and fortified by the French since 1840.

11. TENEZ, a small fortified town with an indifferent harbour.

12. MOSTAGANEM, a very busy, commercial town, about a mile from the sea, where it has a good harbour; population, 10,000. Near it is MAZAGRAN, an old ruinous town.

13. ARZEU, a small fortified town with a very good roadstead.

14. ORAN, a town built on a ravine which divides it in two, at the top of a large but shallow bay; it is surrounded by a strong wall, flanked by towers, and commanded on the west by Mount *Raminsa* (1,640 feet), on the top of which is Fort *Ste. Croix* in ruins, on its northern flank the forts *St. Gregory* and *Mounc* near the sea, and on its southern flank a strong lunette; besides these the town is terminated on that side by the old Kasbah. On the east is the new Kasbah, which can hold 800 men, commanding the lower town and the roadstead; and on the south of this fortress is Fort *St. Andrew*, with two lunettes defending the approaches to it. Further on and in the direction of the ravine is Fort *St. Philip*, which is connected with Fort St. Andrew by a wall, and the two together command a plain of 16 to 20 miles, which stretches out on the east of the town. All these fortifications, which make Oran a most formidable stronghold, are the work of the Spaniards, who took this town in 1509, lost it 1708, retook it in 1732, and finally evacuated it in 1791. It is now occupied by the French, who have constructed there new defensive works, barracks, an arsenal, magazines, &c. It has 20,000 inhabitants, 15,000 of whom are Europeans.

At a distance of two-and-a-half miles from Oran and divided

from that town by the Mouno point, is MERS-EL-KEBIR, an immense and safe roadstead, capable of affording shelter to a hundred ships of war, and unequalled on all the African coast. It is defended by a triangular fort erected on a prominent rock in the sea, and whose fire crosses so well with that of Forts St. Gregory and Moune that it is impossible to force its entrance. With Mers-el-Kebir, Oran is the best naval station and the most important military position in Algeria, and it might be made a second Gibraltar, owing to its vicinity to Carthagena, from which it is only about 100 miles distant.

15. NEMOURS or JEMA GHAZAUAT, a small fortified town with a good roadstead, founded in 1844, very important owing to its position at 20 miles distance from the frontier of Morocco. Near it is the marabout of Sidi-Brahim, famous for the resistance of a French Corps in 1844.

§ 2.—*Basins of the Tell.*

1. The *Mejerdah* is a Tunis river, but it receives some tributaries when flowing through Algerine territory. One of them passes TEBESSA (Thevesta), a small town of Roman origin, inhabited by Arabs, with a French garrison, important on account of its position at the termination of the plateau of the Sbakhs and near the frontier of Tunis, 125 miles from Constantine.

2. The *Seybous* (Rubricatus) rises in the plateau of the Sbakhs, runs through the country of the Haraktas, follows the outline of the groups of the Middle Atlas, till it comes to GUELMA, the ancient Suthul, a small fortified town, important by reason of its position on the road from Bona to Constantine, and of the forests near it. It flows through a fine plain filled with French settlements and ends at Bona.

3. The *Safsaf* rises near SMENDOU, an old French camp on the road from Philipeville to Constantine, passes EL AROUCH, and ends near Philipeville.

4. The *Rummel* (Ampsaga) rises in the *Jebel Guerioun*, which belongs to the plateau of the Sbakhs, runs among very rugged and intricate mountains, and washes CONSTANTINE (Cirtha), the ancient capital of Cæsarian Mauritania, the birthplace of Masinissa and Jugurtha, key of Numidia under the Romans, the

most important town of Eastern Algeria, attacked by the French in 1836, taken by storm by them in 1837. It lies on a rocky peninsula, round which the river flows in a very deep ravine, so that it offers but a single attackable front; a kasbah commands the plateau. The population (35,000 inhabitants) is peaceful and industrious.—After leaving Constantine the river continues its course through a very rough and ill-explored country; it leaves on the left MILAH, a small Arab town, with a French garrison and a kasbah, on the road from Constantine to Setif, it receives a tributary, the *Wad Kebir*, which contains in its basin JEMILAH, a French post on the road from Constantine to Setif; finally, after having flowed through the unknown mountains of Little Kabylia, it falls into the sea.

Before passing to the next stream we must say some words respecting the *plateau of the Sbakhs*, which belongs to the Tell, but, like the Sahara, contains only streams that become lost in the interior. This plateau is covered partly with barren heaths, partly with pasture grounds; it contains small salt lakes, and its streams are few and small. The only road crossing it is that from Constantine to Biskra, which passes BATNA. This town, fortified and occupied by the French, guards the plateau of the Sbakhs, the principal pass of the Aures, and the numerous tribes of its mountains; it is an important post, constructed in 1844, near LAMBESSA, an ancient Roman town, of which considerable ruins remain, and which answered the same purposes to the Romans as Batna does to the French. A penitentiary colony has been established on the site of Lambessa.

5. The *Wad Sahel* rises in the Jebel Dira, passes AUMALE, a town built in 1846, very important on account of its position at the entrance to Great Kabylia, and which closes the communication between the Sahara and the Tell. It flows in a valley very distinctly defined, bounded on the left by the Jurjura, on the right by the Bibans, leaves on its left BORDJ EL HAMZA, the ancient *Auzea*, a French post on the road from Algiers to Constantine, flows through the country of the Beni Mansour, and receives the *Bou Sellam*.—This stream rises in the Jebel Bou Taleb, flows through the Medjanah, receives a tributary that passes SETIF, a fortified and commercial town, situated on a plateau 4,600 feet in height, a very important post, guarding the

road from Constantine to Algiers and the entrance to Kabylia. The Bou Sellam also passes AÏN TURK, a French post, which along with that of BORDJ EL ARIRIDJ commands the Medjanah and the Iron Gates road; it crosses the little-known country of the *Guergour* and *Ben Aïdel*, and falls into the Wad Sahel at almost a right angle.—The Wad Sahel continues its course through a country of unknown mountains, inhabited by the Kabyles, and ends near Bujeiah (Bougie).

6. The *Sebaou* runs through the most populous part of Kabylia. In its basin lies Fort *Napoleon*, which commands the whole country.

7. The *Isser* runs through a little-known country inhabited by Kabyle tribes; it washes no French post nor any remarkable locality.

8. The *Harach* rises on the south side of the Little Atlas, runs through that chain, flows from south to north through the Mitidjah, receives a tributary that passes BOUFFARIK, a small modern town on the road from Algiers to Blidah, passes *Maison Carrée*, and ends in the Bay of Algiers by a pretty large mouth. It is everywhere fordable, its right bank is very fertile, its left bank marshy, its current is very slow; there is a beautiful bridge over it near its mouth, not far from Maison-Carrée.

9. The *Mazafran* rises, under the name of *Chiffa*, on the south side of Mount Mouzaïa (5,117 feet); it flows through deep ravines where the road from Algiers to Medeah passes, which have been the scene of several engagements; it receives on the right a torrent that washes BLIDAH, a fortified town, lying in a very fertile district, connected with Algiers by a fine road, and occupied by the French since 1836; it then flows from south to north in the plain of Mitidjah, receives the *Wad Ger*, which opens up a way from Blidah to Milianah, and skirts the low hills of the *Sahel* which fringe the coast; it passes near COLEAH, a small fortified town guarding the Sahel, occupied by the French since 1837; finally, it flows in a tortuous course through the Sahel hills, and ends below Sidi Ferruch.—Its current is rapid, its waters shallow, its banks pretty high.

10. The *Shelif* or *Khelif*, the most important river in Algeria, rises in the Jebel Amour, flows through the plain of Guig in the Sahara, passes TAGUIN, where Abd el Kader's smala was

captured in 1843, runs between the Jebel Nador and the Jebel Meksen in the country of the Ouled Shaïbs, enters the Tell near the confluence of the *Nahar Wassel*, passes BOGHAR, a small town in French occupation, which guards one of the entrances to the Ouenseris; it turns to the west, leaving on its right, on one of its tributaries, MEDEAH, the ancient capital of the province of Titeri, taken by the French in 1830 and 1838, now a stronghold, one of the most important positions in Algeria, where the great Algiers road enters the basin of the Shelif; it continues its course in a plain bounded by precipices, leaves on its right MILIANAH, a small fortified town, where another road from Algiers enters the basin of the Shelif, in French hands since 1838; it passes ORLEANSVILLE, a small modern, fortified town, flows through a fertile and highly cultivated plain, and ends 6 miles north of Mostaganem.

The Shelif has numerous tributary streams which join it chiefly on the left bank:

1. The *Wad Ourek*, which flows through the plateau of Sersou, and has GOUJILAH in its basin;

2. The *Wad Nahar Wassel*, which skirts the north side of the Middle Atlas;

3. The *Wad Dardar*, which rises in the densest part of the Ouenseris, which is guarded by the small fortress of TENIET EL HAD; it passes near the port of THAZA;

4. The *Wad Riou*, which passes the post of AMMI MOUÇA;

5. The *Mina* rises in the Jebel Nador, leaves on its right TIARET, a small fortress occupied by the French, and TEGDEMPT, an ancient Arab town destroyed by the French in 1841; it flows through a very hilly country, chiefly inhabited by the *Flittas*, passes SIDI BEL HACEL, a French post, and ends in the Shelif.

11. The *Macta* is formed by two streams, the *Habrah* and the *Sig*.

The Habrah rises by seven or eight large torrents which come from the *Jafra* mountains; one of them passes SAÏDA, a small fortified town in French occupation; another passes DAYA, a French post. It then runs through the *Hachem* country, leaves on its right and on one of its tributaries MASCARA, a town of great importance, owing to its position on the south

side of the mountains at the entrance of the plain of *Eghris*, formerly the head-quarters of Abd el Kader, taken and destroyed by the French in 1835, occupied and fortified by them since 1841; pop., 4,000. The Habrah after this flows through the plain of Cirat, and ends in the immense morasses out of which the Macta issues.

The Sig rises, under various names, in the Angad country, flows through the plain of Mekerra, washes SIDI BEL ABBES, a fortress commanding all the basin, and connected with Tlemcen and Oran by two roads; it passes into the country of the *Beni Ammer*, flows through plains cultivated and peopled by French colonies, passes ST. DENIS, a very flourishing settlement, and ends in the morasses of the Macta.—The Macta terminates in the Gulf of Arzeu.

12. The *Wad el Mehl* has in its basin AÏN TMOUCHEN, a French post on the road from Oran to Tlemcen.

13. The *Tafnah* rises in the Angad country, washes SEBDOU, a small fortress occupied by the French, flows through the groups of the Jebelaïa Tlemcen, skirts the Traras mountains, and ends by a broad mouth opposite the island of Rachgoun. It receives:

1. The *Wad Abbas*, which passes LALLA MAGHRNIA, first French post on the frontier of Morocco; 2, the *Mouilah*, which is increased by the *Isly*, passing near OUDJDA, a small Morocco town, on whose banks the battle of August 13, 1844, was fought; 3, the *Wad Isser*, a large stream which is increased by the *Sikkah*, passing near TLEMCEN, the ancient capital of a Barbary kingdom, taken by the French in 1835; a fortress built on cliffs, accessible only on one side; pop., 8,000.

§ 3.—*The Sahara.*

The northern Sahara is divided into: 1, country of the Shotts; 2, plateau of the Upper Shelif or of Sersou; 3, plateau of Zares; 4, plateau of Hodna.

The country of the Shotts is so called from two large shallow salt lakes, called *Shott el Gharbi* and *Shott el Shergui*; all the country is covered with wastes, inhabited or wandered over by nomadic tribes. Some oases are to be found on the streams that fall into these lakes. The principal stream is the *Nador*,

which falls into Shott el Shergui, and passes *Geryville*, a French post which guards the south-western oases.

The country of Sersou presents nearly the same character, but it contains excellent pasture grounds.

The plateau of Zares contains two salt lakes of the same name; it is more populous and better cultivated, on the banks of the brooks which run into these lakes. Its most powerful tribes are the *Oulad Naïls*, near the Great Atlas, the *Oulad sidi Mohammed*, the *Oulad Aïça*, &c.

The plateau of Hodna is a much more fertile and populous plain; it is hollowed out in the centre by the *Shott el Saïda*. This salt lake receives a great many streams; one of them, on the north, passes MSILA, a small Arab town; another, on the S.W., passes BOUÇADA, a small fortified Arab town, held by the French; it is an important position, connecting the southern Sahara with the towns of the Tell; it lies on the road from Algiers to Biskra.

The southern Sahara is an immense archipelago of oases, each of which is an animated group of towns and villages. Round each village is a broad belt of fruit-trees, chiefly date-palms. It is peopled by industrious, active men, who have numerous flocks and fine orchards. There are two distinct populations, one settled, the other nomadic. The former, living in the towns, devote themselves to cultivating their gardens and weaving cloth; the latter pass their lives in the arid plains, unsuited to cultivation, but well adapted to rearing flocks and herds. At the commencement of summer, when the wells and springs are on the point of drying up, they travel northwards, with their camels laden with dates and woollen stuffs; on reaching the Tell, they barter their goods and find grass and water for their flocks. In the beginning of autumn the caravans of the Saharians return to their own country, exchange the corn and raw wool they bring from the north for the dates of the year and the woollen fabrics, and then they lead their flocks into the plains of the south.

The southern Sahara is chiefly taken up by the basins of two streams, which, in spite of their great length, have very little water in their channels; these streams, which run in opposite directions, rise one behind the other on the Jebel Amour.

The first, which flows from W. to S.E., is the *Wad Jeddi;* it passes AÏN MAHDI, a small Arab town; EL AGHOUAT, the most strongly fortified and populous town in all the country; taken by storm by the French in 1851, and made their advanced post on the side of the great desert. It flows through an almost uninhabited country, over which nomadic tribes wander, reaches the *Zibans*, a country plentifully watered by numerous small streams, and studded over with very fertile and populous oases. These streams rise in the Aures, and fall into the Wad Jeddi. One of them passes near ZAATCHA, an oasis famous for the siege it stood in 1849; another, which opens a passage for the great road from the Aures to Batna, passes BISKRA, a small fortified town with a French garrison, held since 1844, a position commanding all the Eastern Sahara. After flowing through the Zibans, the Wad Jeddi, now 300 miles long, falls into the great salt lake of Melghirgh, which has a superficial measurement of more than 3,860 square miles.

The grand river of the Sahara on the S.W. is the *Wad Seggar* or *Brizina*, which runs through countries almost entirely unknown and wandered over by nomadic tribes; it terminates in an interior lake in the empire of Morocco.

It seems that beyond the two great rivers just mentioned there is a chain of mountains of no great height which runs parallel to the Great Atlas, and which sends southwards a great many streams which lose themselves in the sands of the interior. On these streams are oases and tribes subject to French rule. The principal are those of the *Wad Souf*, on the south of the Zibans, of the *Wad Rir*, whose chief town is TOUGGOURT, of *Wargla*, of the *Mzabs*, whose towns are GHARDEIA and GUERRARA, finally of the *Ouled Sidi Sheikhs*.

3.—EMPIRE OF MOROCCO.

This immense country, situated almost as favourably as Spain, fertile, well watered, enjoying a pretty mild climate, is in a state of almost complete barbarism.

The Mediterranean coast is very sparsely peopled. We find there MELILLA, a small but strong fortress, opposite Almeria, in Europe; ALHUCEMAS, a fortress perched on a rock; PENON DE VELEZ DE LA GOMERA, a large fortress on an islet opposite Malaga;

TETUAN, a fortified town taken by the Spaniards, in 1860, pop. 14,950; CEUTA, a small very strongly fortified town and tolerable harbour opposite Gibraltar. These five fortresses belong to Spain and are of but little commercial, political, or even maritime importance; it was not so when Spain had a navy, for then they commanded the strait. At the other extremity of the strait near Cape Spartel, lies TANGIER, a second-rate fortified port, bombarded by the French in 1844, taken by the Spaniards in 1860.

The Atlantic coast does not present a flourishing appearance, it contains: 1, EL ARISH, the ordinary station of the Morocco fleet; 2, SALEE, formerly the resort of very formidable pirates; 3, MOGADOR, a good commercial and fortified port, the most important in the empire, bombarded by the French in 1844.

The streams are short and not remarkable: the largest is the *Muluya*, which falls into the Mediterranean. Among those that fall into the Atlantic, we may notice: 1, the *Seboo*, which runs near FEZ, the second city of the empire, with from 20 to 30,000 inhabitants: it is the last refuge of Arab civilization and the centre of the trade of Europe with Central Africa; 2, the *Tensif*, which runs near Morocco, the capital of the empire, with from 30 to 40,000 inhabitants.

The empire of Morocco, owing to its irregular and despotic government, and its barbarous and non-productive population, is almost destitute of political importance, but it carries on a considerable trade. The Mahometan religion predominates; but Christians are tolerated, and the Jews, albeit ill-treated, have all the administration and commerce in their hands. The army is composed of 24,000 negroes and 12,000 Moors, ill armed and worse disciplined; the whole navy consists of a few wretched xebecks. The sultan shares with the Ottoman sultan the title of chief of the Mussulman religion. The population of the empire is said to amount to 2,750,000.

§ VII.—SAHARA.

This immense plateau has probably the following boundaries: on the north, the Atlas; on the east, the western belt of the Nile basin; on the south, the northern belt of the Niger basin; on the west, low hills which skirt the Atlantic and apparently con-

nect the Atlas with the Kong mountains. It is partly a great desert covered with shifting sands, studded with low rocky hills, without water or vegetation, scorched by a suffocating sun and the burning wind called *simoon*. But several mountainous groups are found in different quarters of this region, with ravines enriched by springs and a fertile soil. The coast has but few accessible points, and it is only on the southern watershed of the Atlas, called by the Arabs *Belid el Jerid* (date country), that some habitable and meagrely cultivated spots are to be found. There lie the barbarous states of *Draha*, *Tafilet*, and *Tuat*, tributary to the empire of Morocco; those of *Mzab* and *Wargala*, formerly tributary to the Dey of Algiers; lastly, *Gadames* and *Fezzan*, tributary to Tripoli, &c. The inhabitants are of the Barbary race. Of all these states the most interesting is the *Fezzan*, a large oasis abounding in fruits, though destitute of running water and parched by intolerable heat; it is inhabited by 70,000 Mahometan negroes, who carry on the slave trade. It is the greatest mart of the interior of Africa, and the most direct way from the Mediterranean coast to the basin of the Niger.

The Sahara is wandered over by nomadic, savage and independent nations belonging to three races: 1. The *Moors* or *Beni Hassan*, who occupy the Atlantic coast between Morocco and Senegal, and extend into the interior as far as the desert of the Tawareks; they are of Arab origin, pure or mixed with indigenous Berber tribes; they are of a dark copper colour, sober, fierce, profess a sort of Mahometan religion and have some manufactures. 2. The *Tawareks*, who inhabit the central part of the Sahara, from the countries occupied by the Berbers of the southern watershed of the Atlas as far as the south of Timbuctu, and from the deserts of the western Moors as far as those of the Tebus; they are savages of Berber race, warlike, commercial, and conductors of caravans; their number is supposed to be about a million. 3. The *Tebus*, who occupy all the eastern parts of the Sahara south of Fezzan and Barca, west of Egypt and north of Bornu; they are a mixture of Arab and Berber races.

§. VIII.—BASINS OF SENEGAMBIA.

It is possible that the heights of the Saraha which skirt the Atlantic are connected with a low, but very wide and complex block of mountains whence flow the Joliba to the east, the Senegal to the north, the Gambia to the west, and the Mesurado to the south. This block throws off branches in every direction, and chiefly to the west, which surround the basins of several remarkable rivers which fall into the Atlantic Ocean, the Senegal, the Gambia, the Rio Grande, &c.; but these branches, like those of the Atlas, form, by their groups, mountain ranges parallel to the coast, which the rivers have to pierce in succession, whereby their courses are much obstructed by cataracts.

The country contained in these basins, is often called *Senegambia*, and is hilly and well watered; it is subject to great heat; the rains are very abundant there; and on the coast the climate is often fatal to Europeans. This union of heat and moisture makes the vegetation prodigiously vigorous: we find forests composed of gigantic trees, the most remarkable of which is the *baobab*, with a trunk often 13 yards in diameter; alimentary and aromatic plants, sugar-cane, tobacco, &c., grow there in profusion, and the country abounds in beasts of prey; gold is found in the interior. This plateau and that of Abyssinia, situated at either extremity of the greatest breadth of Africa, present very remarkable analogies in the character of their mountains, the disposition of their terraces, the nature and productions of their soil; they appear to be the bastions of the great southern plateau, and they give rise to the two largest rivers in Africa, the Nile and the Niger, whose courses are nearly symmetrical, the former running from S.E. to N.W., the latter from N.W. to S.E. If civilization ever succeeds in piercing the continental expanse, its two points of departure will be the plateaus of Abyssinia and Senegambia, by which it will descend into the basin of the Niger.

Two remarkable nations, split up into independent states, share between them the dominion of Senegambia. 1. The *Fulas*, *Fellatas*, *Fulbe*, or *Pullo* occupy the western slopes of the plateau as far as the Senegal; they are likewise to be met with

throughout the basin of the Niger and in the Sahara; they are agriculturists and shepherds, do not engage in commerce, live in towns, have mild and hospitable manners, and speak a very poetic language; Mahometanism makes great progress among them, but they might very readily be brought to adopt Christianity and civilization.—2. The *Mandingoes* or *Mellinkes*, principally occupy the southern slopes of the plateau, and have extended their colonies over the lower terraces, even in the midst of the Fulas and as far as the coast; they are given to commerce and manufactures. These nations are the civilizing people of this region; zealous propagandists of Mahometanism, along with their religion they spread everywhere their agricultural and commercial ideas. The Mandingoes are a fine race of men, brave, generous, and highly intelligent; all the negroes of Western Africa are proud to bear their name.—There is a third people very inferior in power, but who have established intimate relations with the French colonies: these are the *Yolofs*, who inhabit the lower basin of the Senegal; they are devoted to hunting and fishing, are thievish and lazy, and resist all attempts at civilization.

1. The *Senegal* rises in the tableland of Futa Jalo, flows through *Bambook*, a Mandingo state in a very fertile district, abounding in gold washings; *Kasso*, a Fula state, where the French have commercial establishments; *Futa Toro*, one of the most powerful of the Fula states; *Wallo*, a Yolof state under French rule. The towns washed by the Senegal in all these countries are merely collections of huts. The principal are: Fort St. Charles, a French settlement; Bakel, a French commercial establishment, defended by a fort; Podor, a French settlement; Daghana, capital of Wallo, and a French post; Richard Toll, a French post. The river forms great islands, and ends by enclosing between its two chief arms the island of St. Louis, a French colony, containing a small town of 18,000 inhabitants; the chief town of the French settlements in Senegambia, with a good harbour and a fortress. The length of the Senegal is about 1,000 miles; it is interrupted by numerous cataracts, is not easily navigable except in the rainy reason, and its mouth is obstructed by a shifting bore. It receives a great many tributary streams in the upper part of its course, the largest of which are the *Kokorro* on

the right, and the *Faleme* on the left. The former flows through *Fulado*, a Fula state, whose capital is BANGASSI, the best fortified town in all this region. The latter flows through *Galam* and *Bondu*, Mandingo and Fula states, where the French have commercial establishments. The Senegal, in the lower part of its course, receives the waters of several lakes; that of *Cayor* is situated in the state of that name, the most powerful of the Yolof states.

The basin of the Senegal is separated from that of the Gambia by an unknown chain of heights, which ends at Cape Verde. At 5 miles to the south of this cape is the small island of *Goree*, a French colony, with a good harbour, defended by Fort St. Michael; it is a very important place of call for vessels going to India. This possession is connected with St. Louis and the forts and establishments of the interior; but all these establishments, which are highly prosperous, are rather trading marts than agricultural colonies. A good port has lately been constructed at the end of Cape Verde facing the island of Goree, called DUKAR.

2. The *Gambia* rises in the Futa Jalo tableland, waters *Tenda*, a Mandingo state; *Bondu*, a Fula state; *Yani*, *Saloum*, *Kabou*, Mandingo states; it washes no remarkable place besides ALBREDA, formerly a French trading establishment, and ends, after a course of 500 miles by several wide mouths, in one of which lies BATHURST, a British colony. Merchant vessels can sail up it for 125 miles, frigates for 25 miles.

3. The *Rio Grande* flows through the country of the *Biafars*, negroes, cultivators of the soil, and professing Mahometanism; *Kabou*, a Mandingo state; and ends after a course of 250 miles; it is deep, wide, navigable, and has several Portuguese establishments.

4. The *Sierra Leone* rises not very far from the source of the Niger, and ends at SIERRA LEONE, a British colony, intended to civilize Africa by means of free Africans; it is one of the most unhealthy places in the world for Europeans. Its capital is FREETOWN, the chief town of the British establishments throughout the coast, defended by five forts, which command the river.

5. The *Mesurado* or *St. Paul* runs a straight and rapid course of about 300 miles. It flows through LIBERIA, an Anglo-American colony, intended to civilize the Africans; MONROVIA, a small

fortified place, is its chief town. This colony contains 12,000 inhabitants, and includes nearly all the region called *Grain Coast.*

§ IX.—BASIN OF THE NIGER.

The basin of the Niger is bounded on the north by the Sahara, on the west by the mountains of Senegambia, on the S.W. by the Kong mountains; on the S.E. its boundary is unknown. This basin, in spite of the efforts of so many travellers, is still but little known; it is of importance on account of the size of its river, its central position, and the part it is destined to play in the civilization of Africa. It comprises the greater portion of the immense country called *Soudan* or *Takrour*, which is divided into several barbarous and Mahometan states.

The *Joliba*, *Quorra*, or *Niger*, rises in the Loma mountains between *Sulimana* and *Sangara*, idolatrous countries, divided among several independent tribes; it flows from S.W. to N.E., through *Bambara*, an immense Mahometan state divided into several kingdoms, one of the most powerful states in these parts; washes SEGO, a large town of 30,000 inhabitants, the capital of Bambara; JENNE, a busy, commercial town, belonging to the Empire of Mesina; it then runs through Lake *Debu*, in the country of *Mesina*, waters *Kabara*, the port of *Timbuctu*, which in the fourteenth century ruled over an immense empire, but became successively vassal to Morocco, Bambara, and Hausa. Timbuctu, whose importance has been much exaggerated, is a day's journey north of the river; it is the chief mart of the interior trade of Africa; it has a population of from 10 to 12,000. After this it seems that the river turns to the S.E.; it runs through the western portion of the empire of the *Fellatas*, or *Fulas*, the predominant power in central Africa; waters *Borgu*, a province of the Empire of Gando, the capital of which is BUSSA; *Yauri*, another province of the same empire, whose capital is a large and strongly fortified town of the same name; then it turns south in a very winding course; waters *Nufi*, also in Gando; washes the ruins of RABBA, formerly a large commercial town; KATUNGA, a large fortified town, the capital of Yoruba, the predominant power in this region, with vassals

as far as the coast of Guinea; it flows by *Igbira-Panda* or *Funda*, a state between the Niger and Chadda, where they unite, and after which the river escapes from the tableland by a wide gap, and flows on the south watershed of the Kong mountains, skirting the kingdom of Benin. It falls into the sea by an immense delta, which is bounded by the *New Calabar* and the *Formosa* rivers, its eastern and western arms, and includes the great barbarian kingdom of Benin. Five or six other branches flow in the intermediate space; the most central is the river *Nun*.

The tributaries of this mysterious river are still but little known. We may only mention the *Rima* which washes Sokoto, a large fortified town of 20,000 inhabitants, and the capital of the Fellata empire of Sokoto, which extends to Adamawa. The empire of the Fellatas was created by Othman dan Fodige, a sheikh of Gober, in the beginning of this century, and includes Gando and Masina, now under independent sovereigns. The Fellatas are also dominant in Kaarta and a large part of Senegambia.

All the southern watershed of the Kong mountains forms the country known to Europeans by the name of *North Guinea*, which embraces the great indentation, called the Gulf of Guinea. From the Mesurado to the mouths of the Niger, the coast takes the names of *Grain Coast*, *Ivory Coast*, *Gold Coast*, *Slave Coast*, and *Benin*; from the mouths of the Niger to Cape Lopez, it is called *Calabar* and *Gaboon*. This country, very fertile, well watered, intersected by forests and valleys, is only known at the coast, whither the slave trade alone has attracted Europeans; its climate is extremely hot, but pretty healthy. It is divided into a great number of barbarous states. The most powerful of these is that of the *Ashantees*, founded a century ago by a very brave, manufacturing, and intelligent people; its capital is Kumassi, near the river *Pra* or St. John, a large, commercial, and semi-civilized town. It can bring 50,000 men into the field, and it dominates over all the country except the seaboard lying between the rivers Assinie and Volta. From the Volta to the Yorubat country is the kingdom of *Dahomey*, the capital of which is Abomey, which is fortified; its chief town is Whydah, the ancient trading town in Western Africa.—The British establishments

on the Gold Coast and the Slave Coast are on the frontiers of these states. Their chief town is CAPE COAST CASTLE, or CABO CORSO, with a fort and 8,000 inhabitants. The second town is LAGOS, the most flourishing on the whole coast, and formerly the chief mart of the slave trade. The British have for allies the Ashantees, who long waged war with them, and by their means they are able to open lines of remunerative commerce with the interior.—The Dutch have also numerous fortified trading forts on this coast; the chief town of their establishments is ELMINA, a small port, with a citadel and 10,000 inhabitants. The Danes also had small colonies at Accra, Augustaborg, Ningo, Adda, and Quittah, which they sold to the British. Lastly, the French have made some small settlements since 1842: BASSAM on the Ivory coast, ASSINIE on the same Coast; GABOON, the most prosperous, on the Gaboon coast.

§ X.—BASIN OF LAKE CHAD.

This lake, but little known, seems to be the receptacle for the waters of the countries interposed between the basins of the Nile and Niger. Its two chief rivers are the *Yeou*, which passes KANO, a town of the Fellatas, and the largest market of Central Africa, and the *Shary*, which runs from S. to N., between the kingdoms of Bornu and Bagirmi. This basin contains the state of Bornu, which formerly extended over the whole of Central Africa, but has been much curtailed by the conquests of the Fellatas; its capital is KUKA, near the lake.

§ XI.—SOUTHERN AFRICA.—WATERSHED OF THE ATLANTIC OCEAN.

All this part of the African continent is still less known than the northern part; we hardly know any of it beyond a few portions of the coast; the interior is an immense tableland generally with abundance of water, but in certain parts quite arid; it is bordered at some distance from the sea by two chains, of which the Mountains of Kong and the mountains enclosing the upper White Nile on the west are probably the

prolongations on the N.W. and N.E. The rivers, which are numerous, escape from the interior by gaps in the maritime chain.

From Cape Lopez to Cape Negro, the coast describes a shallow concavity, and is the most hilly and best watered country of all the Atlantic watershed; this is *South Guinea* or *Congo*, which seems to be composed of several successive terraces down which the rivers leap into numerous cataracts. The upper terrace is unknown; the middle terrace is very fertile, cultivated, and populous; that of the coast is low, inundated, unhealthy. South Guinea is divided into several barbarous states. Those on the north, between the rivers Nazareth and Mayumba, are entirely unknown. Then comes *Loango*, an idolatrous and barbarous country, the capital of which is BUALI, with a bad harbour. On the south of Loango we find *Cacongo* and *Angoy*, with the ports of MALEMBA and CABINDA. Next comes *Congo*, formerly a very powerful kingdom, the capital of which is BANZA CONGO or SAN SALVADOR. This country has been partially converted to a barbarous sort of Christianity by the Portuguese, who have exercised a great influence over it: but the inhabitants are, notwithstanding, a savage race, brutalized by degrading habits, and addicted to sanguinary revolutions.—It is watered by the *Zaire* or *Congo*, a large river coming from the S.W. across the country of the *Chaggas*, ferocious hordes, who are masters of the central plateau, and are in the habit of making terrible incursions into Congo and Monomotapa; it runs from south to north, through the hills, turns W., then S.W., and ends by several branches, abounding in islets. San Salvador is in its lower basin, on a tributary stream that joins it on the left.

The kingdoms of *Bomba*, *Sala*, and of the *Malouas*, in the interior, are said to be very powerful, but they are unknown; the same is the case with the kingdom of *Cassange*, through which the Coanza flows, whose capital of the same name is the greatest slave market in the interior.

On the south of Congo are the kingdoms of *Angola* and *Benguela*, hilly and little cultivated countries; they are watered by several rivers: the *Coanza*, a large river that rises in the mountains of Cassange, flows from S.E. to N.W., is rapid and

deep, and can be navigated for 100 miles from its mouth; the *Benguela* and the *Nourse*. These kingdoms, divided into several tribes, having pretty regular governments, are almost entirely under Portuguese rule, but that does not make them better known. The Portuguese colonies seem to be miserable; they are used as penal settlements, and their garrisons are composed entirely of criminals and natives. The Portuguese have made fruitless efforts to convert the negroes of this country to Christianity, but they are mere cowardly savages, without intelligence, without manufactures, addicted to unlimited polygamy and the coarsest fetishism. The capital of Angola is LOANDA, at the mouth of the Zenza, a small fortified town and port of importance; the capital of Benguela is BENGUELA, a small unhealthy town at the mouth of a river of the same name. The other Portuguese establishments are Forts *San Jose*, *Cambabe*, *Massangano*, and *Mouchima*.

South of Cape Negro there extends, for 10 degrees, one of the most barren and desert coasts in the world; no trees, no water, no inhabitants; it is bounded by the tableland of the interior, where the Ovampos and Damaras are settled.

With Walfisch Bay commences a better known and inhabited country: this is Namaqualand, the plateau of the Hottentots, through which flow the Fish river and other tributaries of the *Orange* river, which rises in the Drakenberg mountains, flows from E. to W. in an immense basin, surrounded on all sides by mountains, or rather terraces, among which lie the *karrous*, plains without streams, but which are decked with rich verdure in the rainy season. The height of this tableland seems to be about 3,500 feet, and that of the hills bounding it on the south (the *Nieuweveld*) about 8,500 feet. The streams, and occasionally even parts of the Orange River, dry up during the hot season. The *Hottentots* are divided into several peoples: the *Hottentot* proper, scattered and nearly extinct; the *Koranas*, on both sides of the Orange, a good and hospitable race, who have been easily civilized by the Cape missionaries; the *Namaquas*, on the Fish and Lower Orange; the *Saabs* or *Bosjesmans*, one of the most miserable, savage, and uncivilizable people in the world, wandering over the Kalihari desert and its borders; lastly, the *Griquas*, sprung from Dutch fathers and Hottentot

mothers, and settled on the north side of the Orange River, between Cape Colony and the Free State.

The mountains called Nieuweveld descend by successive stages, going from west to east, and form a tolerably temperate country, with a very rich and varied vegetation, where the dismal karrous alternate with fertile valleys, and where the mountains are arranged in the form of horizontal benches, like tables. This is *Cape Colony*, founded by the Dutch in 1650, and conquered by the British in 1795 and 1806. It occupies all the south part of the African peninsula, and is bounded on the N. by the Orange River or *Gariep;* the capital is CAPE TOWN, at the foot of Table Lion and Devil Mountains, at the head of Table Bay, and on an isthmus which separates Table Bay, facing the north, from False Bay, which faces the south; it has no harbour besides these two not very safe bays, which are exposed to dangerous winds; it is, however, a most important fortress, the strongest in Southern Africa, the key of the Indian Ocean, the usual place where vessels going to Asia touch, and the great hospital of the British troops on their way to or from India: pop., 25,000. Total population of the colony, 260,000, of whom 40,000 are Europeans; garrison, 5,000 men.

§ XII.—SOUTHERN AFRICA.—WATERSHED OF THE INDIAN OCEAN.

Little is known of this watershed, which presents nearly the same features as the last. It would appear that behind the low, marshy, and fertile coast, rise mountains, which seem to be parallel to the shore, and are crossed by several rivers; they are doubtless the eastern slope of the tableland composing Southern Africa.

Between Cape Colony and Natal lies *Kaffraria*, a well-watered country, abounding in forests and savanahs, but with no port. NATAL is an English colony, containing already more than 150,000 inhabitants; capital, PIETERMARITZBURG. The Kaffirs differ from the other Africans; they speak a distinct language, and are of a dark iron-grey colour, well made, vigorous, intelligent. They are divided into several peoples; the *Kosas*, or *Amakosa*, shepherds and hunters, are settled within Cape Colony;

the *Tamboukis* or *Amatembu*, the *Amaponda*, and other tribes, occupy Caffraria; the *Zulus* or *Amazula* inhabit the territory between Natal and the Portuguese frontier at Delagoa Bay. The *Bechuanas* are another division of the African races, speaking a distinct language; they extend from Natal to the Zambezi river; their most powerful tribes are the *Basutu*, who possess the sources of the Orange river; and the *Makololo*, who are settled on the middle part of the Zambezi. Between the Caffres and Bechuanas we find the *Boers*, a people descended from the Dutch of the Cape: they are warlike, half civilized, and great cattle breeders. The Boers used to inhabit Cape Colony; they would not submit to British rule, and withdrew into the interior, where they have founded the republics of *Orange* and *Transvaal*. The former lies between the *Ky Gariep* and the *Nu Gariep* rivers, tributaries of the Orange, and is bounded on the S.E. by the Drakenberg mountains and Basutuland; the latter lies north of this, between the *Vaal*, a tributary of the Gariep and the *Limpopo*, a stream that appears to fall into the sea on the north of Delagoa Bay.

Mozambique is an immense fertile tract of coast country, stretching from Delagoa Bay to Cape Delgado; it is divided among several nations, who are nominally under Portuguese influence or rule. Its principal river is the *Zambesi*, which rises in the tableland of the interior, flows from N.W. to S.E. through imperfectly explored countries, which seem to be fertile and populous; it is interrupted by numerous waterfalls, the chief of which is the *Victoria* fall; receives numerous tributaries; washes CHICOVA, a fertile plain about 500 miles from the coast; TETE, a small Portuguese town, defended by a fort; receives on the right the *Chirsira* (*Luenya* of Livingstone), near which is supposed to have been the Portuguese post of MASSAPA and the gold mines of the Fura mountains; also the zimbaoe or court of the emperor of Monomotapa, celebrated in the seventeenth century, whose territories are now occupied by the Matebele Landeens, and other tribes of independent Kaffirs; it passes through the narrows of *Lupata*, flows from west to east, bathes SENA, a Portuguese post, and ends by several mouths forming a delta, on north of which stands QUILIMANE, a small Portuguese town. Shortly before breaking up into the branches by which

it ends, it receives on the left the *Shire*, a river that issues from the south end of the great Lake *Nyassa*, 1,500 feet above the level of the sea, about 200 miles long. The lower basin of this great river contains gold, is fertile and populous; the coast is very unhealthy. The principal people inhabiting it are the Kaffirs, warriors and conquerors.—The chief town of the Portuguese settlements in this region is MOZAMBIQUE, a small town with a good harbour, a bad citadel, and 8,000 inhabitants; it is the busiest trading place of all the east coast; the other trading places are *Inhambane*, *Sofala*, *Luabo*, &c. The Portuguese have taught us nothing concerning the savage tribes of these regions, from some of whom they exact tribute without attempting to civilize them, while to others they pay tribute. Moreover the Portuguese colonies are in the most wretched condition; inhabited by criminals, defended by negroes recruited in the country, deprived of their slave-trade, they are threatened by the Arabs, the natives, and the Madagascar pirates, and ere long will be destroyed.

From Cape Delgado to Cape Guardafui, the coast has been imperfectly surveyed by the British, and includes *Zanbar*, *Magadoxo* or *Makdishu*, and *Ajam;* it is hot and humid, fertile and populous; the people are Negroes and Arabs in the south, Gallas and Somalis in the north, and all are in a barbarous condition. Beyond the almost unknown mountains, whence numerous streams flow down to this coast, are some recently-discovered lakes of considerable extent; the one farthest south is Lake *Nyassa;* the one in the centre is Lake *Tanganyika*, 1,844 feet above the level of the sea; the most northern one is *Albert Nyanza*, which is at a height of 2,720 feet above the level of the sea. (See the basin of the Nile.) The Portuguese had formerly some settlements on the coasts of Zanzibar, but they were driven away from them by the Arabs at the end of the seventeenth century; the towns of MELINDA, MOMBAZ, LAMO, &c., still exist. The Sultan of Zanzibar rules the coast from Cape Delgado to the river Jub.

From Cape Guardafui to the Strait of Bab-el-Mandeb, stretches the wild and desert coast of *Adel:* here dwell the *Somalis*, who are addicted to navigation; their country is on the direct route for the trade of the interior of Africa with the south

of Arabia. In the seventeenth century there was in the interior the barbarous kingdoms of *Gingiro* and *Hurrur*, which are now in possession of the Gallas.

§ XIII.—ISLANDS OF AFRICA.

Indian Ocean.—1. *Socotra*, lying east of Cape Guardafui, is only of importance on account of its position between Africa and Arabia at the entrance to the Red Sea, for it is destitute of water and vegetation. It is a dependency of the Imaum of Muscat.

2. Archipelago of the *Seychelles*, consisting of two principal groups of small fertile islands, the *Amirantes* and the *Mahés*. The largest is *Mahé*, very important on account of its excellent harbour, and its production of nutmegs and cloves: it was a French settlement, seized by the British during the wars of the Revolution.

3. Archipelago of the *Comoros*, at the entrance of the Mozambique Channel, consisting of four hilly, picturesque, healthy, and very fertile islands. The population, consisting of Arabs and Mahometan negroes, was formerly civilized, manufacturing, and hospitable; but it has been nearly destroyed by the invasions of the Madagascar pirates. One portion of these islands has been in the occupation of the French since 1846, they have founded here and off the coast of Madagascar two considerable settlements, at *Mayotta* and *Nossi Be*. The former is 74,134 acres in extent, and has 7,000 inhabitants; the latter is 49,423 acres in extent, and has 17,000 inhabitants.

4. *Madagascar*, a large island 845 miles in length, by 310 in breadth, divided from Africa by the Mozambique Channel. From north to south runs a long chain of mountains, of from 6,000 to 10,000 feet in height, which give rise to numerous streams, subject to periodical overflows. Its soil is generally high, varied in features, fertile; it enjoys a temperate climate, and a variety of seasons. Its position at the entrance to the Indian Ocean, near the African coast, its fine havens, its great size, and the abundance of its products, render it one of the most interesting parts of Africa. Its population is of Kaffir and Malay race, with a mixture of Arabs and Hindoos; it is divided among

several nations.—On the eastern watershed we find: 1. The *Antavares*, seafaring and warlike; their chief resides at *Tintingue*, an ancient French settlement, abandoned in 1831.—Opposite this coast is the island of *St. Marie*, a French settlement, whose chief town is Port Louis, a military post, with a small harbour. The island has only 5,000 inhabitants.—2. The *Betimsaras*, manufacturers, and capable of being civilized, but cowardly and treacherous: they have been subdued by the Ovas, and their capital is Foulpoint, with an excellent roadstead, where a brisk trade is carried on, and where the French fought the Ovas in 1829.—3. The *Betanimenas*, the mildest and most sociable inhabitants of the island; they were formerly allies of France, and had until lately for their chief a mulatto, of French origin; but they have fallen under the dominion of the Ovas; their town is Tamatave, the busiest trading town in the island, with a very good roadstead and several forts; taken by the French in 1829.—4. The *Ovas*, a people inhabiting the cold and treeless tableland of the interior, brave, intelligent, astute, clever at working in metals, at weaving much prized cloths, and at imitating objects of European manufacture, even coins. They live under a despotic but regular government, and are apparently of Malay origin. Their chief, Radama, lately conquered a large portion of the island, subduing even the allies of France, and founded a great kingdom; he tried to civilize his subjects, built towns, raised an army of 50,000 men, the half of whom had guns, and were disciplined in the English way, created an artillery and even a cavalry, and he had even sent his children to London to be educated; but at his death, which happened in 1828, most of the peoples whom he had subdued, revolted; all his establishments were ruined, and a French expedition, despatched in 1829, took Tamatave, and extorted a treaty which restored their independence to the allies of France. Nevertheless, since that time Radama's successors have re-established the sway of the Ovas over a great portion of the island. The capital of the Ovas is Tananarivo, a large town of 50,000 inhabitants, situated among the mountains; the chief buildings were constructed by a French mason, and a printing establishment and schools were established by English missionaries. The other towns are Bombetok and Mazangaye, busy commercial ports on the west coast.—5. The southern

portion of the east coast contains only wretched and savage peoples; here the French founded, in the time of Henry IV., the settlement of *Fort Dauphin*, which is now a ruin.—6. On the west coast we find the *Buques*, a barbarous people living in an unfertile soil, and the *Seclaves*, a nomadic people, who were once under the rule of the Ovas, but who, since the death of Radama, have recovered their independence.

5. *Isle of Bourbon* or *Reunion*, on the east of Madagascar, is 125 miles in circumference, it consists of two volcanic mountains one of which is still in activity: the ground, rent in every direction, is covered with volcanic alluvium, which makes an excellent soil for vegetables; it grows much coffee, sugar, and cloves; enjoys a very healthy climate, but has no ports. St. Denis, its capital, has only an open roadstead, exposed to frightful hurricanes; pop., 20,000. Its second town is St. Paul, near which a good harbour might be made. Bourbon is a very prosperous French colony, with a population of 178,000. Its garrison consists of 5 companies of infantry and of marine artillery.

6. *Isle of France* or *Mauritius*, to the east of Bourbon, smaller and less fertile than the latter, but a first-class position for war and commerce on account of its harbours. It was formerly a French colony, but was ceded to the British in 1814; it is furnished with a wealthy, active, and warlike population, it was the point whence sailed those indefatigable corsairs who spread terror as far as the Bay of Bengal; its capital is Port Louis, 35,000 inhabitants, with a good harbour. Population, 230,000.

Atlantic Ocean.—7. The *Tristan da Cunha* isles, mountainous, volcanic, and not very remarkable. The largest only is inhabited by a few British.

8. *St. Helena*, a rock of volcanic origin, lost in the immensity of the ocean, 1,240 miles from the African continent; it is 22 miles in circumference, its coasts are very precipitous and barren; in the interior are small valleys; pop., 2,000. Its town is James Town, remarkable for its harbour and fortifications. This island, which belonged to the late East India Company, is very important as a resting point and as a military position. It is famous as being the place of Napoleon's captivity; his remains were deposited at *Longwood* until 1840.

9. Isle of *Ascension*, a volcanic rock, that serves as a resting point for vessels going to India; it belongs to the British.

10. Isle of *St. Thomas* and *Prince's Island*, near the Gaboon coast; they are fertile, populous, flourishing, and belong to the Portuguese.

11. *Fernando Po*, near the mouths of the Niger, fertile, hilly, and wooded. This island, remarkable for its commercial and military position, is destined to be the centre of the European settlements in Guinea, and the mart of the commerce that will eventually be opened up by the Niger with the interior of Africa. It belongs to the Spaniards.

12. The *Cape Verde* archipelago, consisting of 10 rocky, volcanic and rent islands, which seem as though they had been burnt; the climate is scorching and the soil unfertile. The population, wretched and coarse, is of Portuguese race, but so much degenerated that it might be taken for African; population, 85,000.—Capital, St. Jago.—A Portuguese possession.

13. Archipelago of the *Canaries*, consisting of 7 principal islands, volcanic and fertile. Their climate is very mild, and though close to the Sahara, they have quite a European look. The largest and most populous is *Tenerife*, formed of basaltic mountains, above which a volcanic peak of 12,490 feet in height rears its head; its town is SANTA CRUZ, the seat of the government, with a good harbour defended by three forts. The other islands are *Canary*, *Fuerteventura*, *Lanzarote*, *Gomera*, *Palma*, *Ferro*. Their population is 200,000, of Spanish race; the ancient indigenous population of the *Guanches*, who had attained a certain degree of civilization has been destroyed.—A Spanish possession.

14. Archipelago of *Madeira*, composed of one large and several small islands; they are hilly, have a well-watered soil, fertile in vines, and enjoy the most agreeable climate. FUNCHAL, the capital of Madeira, has but a poor harbour. The population numbers 90,000, and they belong to Portugal.

BOOK VIII.

AMERICA.

The Western Continent called America, is bounded on the north by the Arctic ocean; on the east by the Atlantic ocean; on the south by the Southern ocean; on the west, by the Pacific ocean, Behring Strait and the Arctic ocean.

It is comprised between N. lat. 72° and S. lat. 54°, and between W. long. 34° 47′ and 168°. Its greatest length, from Cape Froward in the Strait of Magellan, to Cape Prince of Wales in Behring Strait, is about 10,000 miles; its greatest breadth, from Cape San Roque to Point de Guia (S. Amer.), is above 3,000 miles, its superficial dimensions are about 15,800,000 square miles.

Its streams have three recipients: the Atlantic ocean, the Pacific ocean, and the Arctic ocean.

§ I.—DIVISIONS OF THE SEAS.

1. *Atlantic Ocean.* It forms but small gulfs in South America, and is contracted between the greatest projection of this peninsula and the deepest indentation of Africa, so as to form as it were an immense strait. Between the two Americas it excavates the *Caribbean Sea*, lying between the Archipelago of the Antilles, South America, and the Isthmus of Guatemala, in which it forms the gulfs of *Mosquito* and *Honduras*. This sea communicates by the *Channel of Yucatan* with the *Gulf of Mexico*, whence access to the Atlantic is gained by the Strait of Florida. The Atlantic Ocean forms in North America: 1, the *Gulf of St. Lawrence*, between the mouth of the river of that name and the island of Newfoundland; 2, *Hudson Bay*, to which access is obtained by *Hudson Strait*, and which is connected by the *Fox*

Channel and *Fury and Hecla Strait* with the Arctic Ocean; 3, *Baffin Bay*, which is entered by *Davis Strait*, and which is connected with the Arctic Ocean by *Lancaster Sound* and *Barrow Strait*. The most remarkable peninsulas of the Atlantic Ocean are: *Yucatan*, *Florida*, *Nova Scotia*, *Labrador*.—Capes: *Horn*, *Froward*, *Frio*, *San Roque*, in South America; *Gracios a Dios*, *Catoche*, *Florida*, *Cod*, *Farewell*, in North America.—Islands: *Tierra del Fuego* and *Falkland*, the *Great* and *Little Antilles*, the *Bahamas* (*Lucayos*), *Newfoundland*, *Arctic Archipelago*, *Iceland*, and *Spitzbergen*.

On the American coast the Atlantic Ocean is subject to a very remarkable current, called the *Gulf Stream*. The trade-winds propelling the water of this ocean between the tropic and the equator, from the African coast westwards to the American coast, drive it through the straits between the West India Islands as far as the coasts of Mosquito and Honduras, which arrest their further flow in that direction. The stream then turns N.W. and enters the Gulf of Mexico by the Yucatan channel, winds round all the sinuosities of the coasts of Mexico, Louisiana, Florida, &c., rushes impetuously through the Florida Channel, where it attains a velocity of 6½ feet per second. The stream which is 37 miles wide, is known by the blue colour of its waters, their highly saline character, and especially by their temperature, which is higher than that of the surrounding water. On the Virginian coast (United States), the velocity of the current diminishes, its breadth increases, and its temperature falls. In N. lat. 36° its velocity is not above a mile an hour, its breadth from 100 to 120 miles, and its temperature about 68° (beyond the stream 58°). In N. lat. 41°, and W. long. 64° 40′, it is 200 miles in breadth; it then turns eastward, and closely shaves the north end of the Bank of Newfoundland; its water still retains a temperature of from 64° to 65° (beyond the stream 47° to 48°). From the Newfoundland Bank it flows E.S.E. with ever diminishing velocity and ever increasing width, so that near the Azores it is about 400 miles broad. Thence it flows towards the Strait of Gibraltar and the Madeira and Canary Islands, turns S.E. along the African coast, changes direction to S.W. about S. lat. 25, and joins the great tropical current to recommence the same course. Thus, the Gulf Stream may be looked upon

as a sort of sea river without source or mouth, whose course of elliptical form has for its extreme points: on the west, the coast of Mexico; on the north, the Bank of Newfoundland; on the east, the Canaries; on the south, the tropic of Cancer.

2. The *Pacific Ocean* makes no indentations except the *Gulfs of Panama* and *California;* the only peninsulas it forms are those of *California* and *Behring;* it has no remarkable capes except those of *Pillar* and *Blanco* in South America, those of *San Lucas, Mendocino, Flattery,* and *Prince of Wales* in North America; lastly, there are numerous islands, including the Archipelagoes of Chonos, Chiloe, &c. On the coast of Patagonia, the group of Juan Fernandez, the Chincha or guano islets on the coast of Peru, the Galapagos, the Pearl islands in the Bay of Panama, the group of Revelu Gigedo off the coast of Mexico, many small islands in the Gulf of California and on the western shores of the United States, the great archipelago of Quadra and Vancouver, the Kodiak and Aleutian islands and small groups in Behring Sea and Strait.

3. The *Arctic Ocean* has only been explored along the shores of the surrounding continents and among the great archipelagoes extending from America to Greenland and Spitzbergen. We only know that there is a N.W. passage from the Atlantic Ocean to the Pacific Ocean; but being constantly frozen, this passage can be of no use to commerce.

§ II.—DIVISIONS OF THE LAND.

America, consisting of two peninsulas connected by an isthmus, has a distinctly defined framework; starting from Cape Froward is a long chain running as far as Cape Prince of Wales, very near to the Pacific and very distant from the Atlantic Ocean; it forms the water-parting, and consequently divides each of the two peninsulas into two watersheds: the one with a very rapid slope, and very narrow, towards the Pacific; the other with a very gradual descent and very broad, towards the Atlantic Ocean, and furrowed by the largest rivers in the world.

Taking each peninsula separately, we find (exaggerating its forms for the purpose of simplification) that its framework is

traced in a very simple manner. Thus South America forms a sort of triangular pyramid, the height of which is very small in comparison with the length of its edges; the apex of this pyramid is the table land of *Titicaca* (source of the Marañon or Amazon, of several of its tributaries, of the Pilcomayo, a tributary of the Plata, &c.); the edges are: 1, the chain of the *Andes*, from Cape Froward to the tableland; 2, the chain of the Andes, from the isthmus of Panama to the tableland; 3, the chain of heights separating the Rio de la Plata from the Marañon, from Cape San Roque to the tableland. This last is the least marked edge; the other two are very distinct, and form a single straight line. The height of the pyramid is only 21,290 feet (at the peak of Sorata, the culminating point of all America). Of the three faces of this pyramid the south-eastern one is occupied by the basin of the Rio de la Plata; the north-eastern one is occupied by the basin of the Amazon river; the western one by the very narrow watershed of the Pacific. If we add to these three principal parts two appendices, one on the south, the other on the north, we shall have the natural divisions of South America: 1, *Patagonia*, or *southern appendix*; 2, *basin of the Plata*; 3, *basin of the Marañon*; 4, *watershed of the Caribbean Sea* and *the Orinoco* or *northern appendix*; 5, *watershed of the Pacific*.

North America has not such a clearly defined framework, but it has forms analogous to those of the other peninsula. *Fremont's Peak*, 13,570 feet (where the Columbia, Rio Colorado, Missouri, &c. rise), may be regarded as the apex of the triangular pyramid, which is its form; the three edges are: 1, the chain of the *Cordilleras*, from the Isthmus of Panama to Fremont's Peak; 2, the chain of the *Rocky Mountains*, from Cape Prince of Wales to Fremont's Peak; 3, the series of heights separating the Mississippi from the St. Lawrence, from the peninsula of Nova Scotia to Fremont's Peak. This latter edge is far from distinct, but the two others form a continuous chain. Of the three faces of this pyramid, the south-eastern is occupied by the basin of the Mississippi: the north-eastern by the basin of the St. Lawrence; the western by the watershed of the Pacific; lastly, there is on the north, towards Hudson Bay and the Arctic Ocean, an immense confused appendix. These then are the natural divisions of

North America: 1, *the watershed of the Pacific;* 2, *the watershed of the Gulf of Mexico;* 3, *the watershed of the Atlantic;* 4, *the watershed of Hudson Bay and the Arctic Ocean.* To these we may add: 5, *the Polar lands;* 6, *the Columbian Archipelago.*

The New World differs from the Old in geographical organization. Its greatest dimension follows the direction of the meridian, and its terrestrial mass is formed of two similar peninsulas, whereas the Old World has its greatest dimension in the direction of the equator, and its terrestial mass is very unequally divided into three peninsulas. This portion of the globe appears to be more favourably situated than the three others, seeing that it has a whole hemisphere to itself, and can communicate directly with the three others; but its isolation in the middle of the vast ocean necessarily left it long unknown to the Old World. It is indeed only connected with the latter by Behring Strait, and it could not communicate with civilized humanity by the east coast of Asia; on that side its own coast is straight, continuous, precipitous, without bays, islands, or rivers; on the other side, on the contrary, it is opened up by immense interior seas, by long belts of islands and the largest rivers in the world, as if to invite and receive the ships of Europe. Hence America is but a vast European colony, dating its existence from Columbus, its second creator, still young and hardly emancipated from the colonial ties that bound it to Europe, it has not yet attained its full political development; but it is probably destined one day to surpass Europe in civilization and power, as it surpasses it in advantageous geographical position and in the virgin wealth of its soil.

§ III.—HISTORY OF THE GEOGRAPHY OF AMERICA.

When America was discovered, it was inhabited by a multitude of peoples differing in origin, language, and destiny; some had attained to a material civilization, to which the monuments they have left bear witness; but none of them had a written language, and they only retained confused traditions of their past history.

In colonizing America, Europe apparently doomed to extermination its original inhabitants, whom it crushed with all the superiority of its civilization. To conquer the empire of Mexico

Fernando Cortez required only 600 men and 18 horses; Pizarro destroyed the empire of Peru with even feebler resources. These two countries were the most populous and the most civilized of the new world; but their inhabitants disappeared so quickly before the Europeans, that it is doubtful if one-half of the present population is of the indigenous race. The savage tribes had no better fate wherever the colonists settled; and after two centuries not a single inhabitant of the ancient race remained in the Antilles. This depopulation proceeded to such an extent, that hands had to be sought elsewhere in order to cultivate the soil of America: hence arose the slave trade. One hundred thousand slaves were annually imported from Africa to fertilize with their sweat the American plantations. It was by such abominable means that Spain succeeded in creating a wonderful empire embracing one half of both Americas. This empire lasted three centuries, and was divided into the vice-royalty of Buenos Ayres, Chili, Peru, and New Grenada; the captain-generalcy of Caracas; the vice-royalty of Mexico.

The Portuguese followed the example of the Spaniards; they conquered and civilized a portion of the basins of the Amazon and Parana, which they called Brazil; but they had to exterminate or drive into the interior the indigenous inhabitants, a very small number of whom agreed to remain among them.

The Portuguese and Spaniards were at first the sole rulers of America; but soon after them came the other seafaring nations. The first English colony settled in Virginia in 1584. The first French settlements were those of Canada in 1534 and 1604. These colonies, of purely agricultural character, were founded in territories occupied by savage and warlike tribes, who had to be exterminated or pushed back into the interior. The French settled mainly in the lower basins of the Mississippi and St. Lawrence (Louisiana and Canada); the British occupied the eastern watershed of the Alleghanies; those two nations likewise shared with the Spaniards the possession of the Antilles. Rivals in Europe, they were perpetually at war in America; these wars terminated in 1763; France ceded to England—Canada, all her possessions on the left bank of the Mississippi, the islands of the Gulf of St. Lawrence, several of the West India islands, &c. The power of Britain became predominant throughout

North America; but her colonies having attained a high degree of prosperity, wished to shake off the trammels imposed on their trade by the mother-country; thirteen provinces revolted in 1776, and in 1783, with the assistance of France, succeeded in getting their independence acknowledged and in establishing the federal republic of the United States. This new State gained constant accessions of territory at the expense of the indigenous tribes, obtained Louisiana from the French, Florida from the Spaniards, Texas and California from the Mexicans, and its population being increased by European emigrants, it has attained a prodigious development, and is now the first power of the new world.

France retained a possession which made up to her for all her colonial losses; this was St. Domingo, where the French had settled in 1630, and which had become the most flourishing of the European colonies. The French revolution occasioned commotions in this island, in the course of which the negroes rose in rebellion, and massacred the white population. France made futile efforts to recover her colony; Napoleon sent thither a fine army in 1802, which was destroyed; and in 1824 it was necessary to acknowledge the independence of St. Domingo, which after passing through numerous revolutions and being split up into several States, had ended, in 1822, by establishing the republics of Haiti and St. Domingo.

The emancipation of the British colonies roused the Spanish colonies, which through the decay of the mother-country had fallen into a state not far removed from barbarism. The provinces of Venezuela and Caracas commenced the revolution in 1808; Peru, Chili, and Mexico followed their example; but twenty years of anarchy, civil war, atrocities, and miseries of every description were required to secure the independence of these colonies, which are split up into a multitude of republics, still in a chronic state of revolution. The chief of these states whose independence has been acknowledged by Spain are:—1, the Republic of Mexico; 2, the States of Central America; 3, the United States of Colombia, the Confederation of Venezuela, and the Republic of Ecuador; 4, the Republic of Peru; 5, the Republic of Bolivia; 6, the Republic of Paraguay; 7, the Argentine Confederation; 8, the Republic of Uruguay

(Banda Oriental); 9, the Republic of Chili. All that remains to the old country are the islands of Cuba and Porto Rico.

Brazil was prevented from following the example of the Spanish colonies, because the royal family of Portugal, driven from Lisbon by Napoleon, took refuge in America; but on their return to Europe in 1821, it declared its independence, formed itself into an empire, and elected Pedro, the son of the King of Portugal, as its sovereign.

During the wars of the French revolution, Britain seized on the colonies that remained to France, those of Holland, &c.; and at the peace of 1814, she did not restore them all. She has, moreover, sought to extend her power northwards, by giving almost complete independence to all that part of the continent lying north of the United States, except the portion lying near Behring Straits, which was lately purchased by the United States from Russia; lastly, she has fitted out several exploring expeditions in order to discover a passage from the Atlantic Ocean into the Pacific Ocean. The names of Mackenzie, Franklin, Parry, Ross, M'Clure, &c., are distinguished for their discoveries by land and sea; the north-west passage was discovered in 1850.

America contains a greater number of different peoples than the other quarters of the globe. Of the 55 millions making up its total population, 15 millions only are of indigenous race, and these 15 millions speak upwards of 400 different languages. These 400 different tribes are the remains of great nations destroyed by the colonization of the new world: the principal of these will be named when we describe the different regions. Of the other 40 millions of inhabitants, 20 millions are of European race, 10 millions of negro race, 10 millions of a mixed race of whites, blacks, Americans, &c.

Before it was colonized by Europeans, all the nations of America were idolaters; now christianity is professed by the great majority of the population; it is only the most barbarous tribes that have not adopted it. Catholicism and Protestantism divide almost equally the christian population of the New World.

South America.

§ I.—PATAGONIA, OR THE SOUTHERN APPENDIX.

Under this name we include the eastern watershed of the Andes, from Cape Froward to the source of the Rio Negro. In this region the Andes form a kind of immense dyke along the Pacific coast, from which they are not more than from 25 to 30 miles distant; they are very imperfectly known, contain many volcanoes, and their culminating point is *Minchinmadiva* (8,000 feet). Patagonia is an almost entirely unknown region, consisting of immense barren, cold solitudes, across which the winds of the three seas blow, without wood or fresh water, wandered over by the savage tribes of the *Patagonians, Chunchis, Puelches*, &c. The only remarkable stream is the Rio Negro or Cusu Leubu, which rises in the Chilian Andes, flows from S.W. to N.E. through vast plains, receives the waters of several large lagoons, flows from west to east, and ends on the north of the Gulf of San Matias. It separates the Argentine Confederation from Patagonia, and is upwards of 500 miles in length. Patagonia is claimed by Chili, and called by the Chilian government, the Colonial Territory of Magellan.

On the south of Cape Froward, and separated from the mainland by the winding and difficult strait of Magellan, lies the archipelago of *Tierra del Fuego*, consisting mainly of a large island which seems to have been torn from the continent, a desolate and wild country, riven by volcanoes, cold, barren, and with scarcely any inhabitants. On the south of this land is a small island where Cape Horn rears its head over the seas; it is the most southern part of America, and is in reality the last peak of the Andes.

On the east of the strait of Magellan is the archipelago of the *Falkland Islands* (Malouines), a British possession, and in the Southern Ocean lie some islands lately discovered and uninhabited—*Georgia, South Shetlands, Trinity Land, South Orkneys*, &c.

§ II.—BASIN OF THE PLATA.

This immense basin is formed by the northern watershed of the low hills and pampas dividing the Plata from a region in which the waters descending from the Andes are absorbed in shallow lagoons, and do not reach the ocean; by the eastern watershed of the Chilian Andes, from Mount Patos to the Serrania of Chayanta; lastly, by the southern watershed of the sierras and tablelands separating the Plata from the Marañon. General direction from N.W. to S.E.

Description of the Enclosing Belt.—It is only in the vicinity of the Andes that there are to be found low chains, indicating the southern water-parting of the Plata; everywhere else there are only pampas studded over with small lagoons, and traversed by brooks. This very remarkable state of things, which is reproduced throughout the whole American continent, is owing to this circumstance, that the plateaus supporting the Andes are separated from the low plains by a short and steep slope; moreover the plains lie at a very low level, and are rarely interrupted by knolls; hence it follows that the water-partings between the different basins are hardly perceptible.—The Chilian Andes are higher and denser than the Patagonian; they contain fourteen volcanoes, their highest peak is *Aconcagua* (23,910 feet), and they extend as far as the Chilian frontier, where the Bolivian Andes commence. From the Bolivian system is given off in an easterly direction the only great branch derived from the Andes, which runs through the whole breadth of South America as far as Cape Roque, separating the basins of the Plata and Marañon: it has no general name.—It is not a distinct chain, but a series of heights and tablelands, running first S.E. between Potosi and Chuquisaca, that is to say, between the sources of the Rio Grande (Marañon) and Pilcomayo (Plata); it then turns N.E. between the waters of the San Miguel and Guapore (Marañon) and the sources of the Paraguay; it forms a very confused but not high mass, called the *Campos de Parecis*, an immense plateau inhabited by independent Indians, and composed of hills and mounds of sand; this mass contains the sources of upwards of thirty rivers, among others the Guapore, the Tapajos, and the Xingu (Marañon), and those of the Paraguay: this is the centre of South America.

Thence the water-parting runs S.E. between the first tributaries on the left of the Paraguay and the sources of the Araguay (Marañon), then N.E. between the first tributaries of the Araguay and those of the Parana (Plata); it continues in this direction, assuming more and more the appearance and height of a chain, under the name of *sierra dos Vertentes*, passes between the Tocantin and Paranahyba on the one hand and the San Francisco on the other, branches out into several precipitous sierras as it approaches the coast, and terminates at Cape San Roque.

This long series of heights gives off numerous branches, but they are of no great size, and become speedily lost in the plains. The most remarkable is given off between the sources of the Tocantin and Parana, runs south under various names, encloses from west to east the sources of the San Francisco, and, in the Peak of Itacolumi (5,753 feet), strikes perpendicularly the chain of the *Brazil mountains*.—This chain runs parallel to the coast from the mouth of the San Francisco to the mouths of the Plata; the portion on the north of Itacolumi keeps at a distance of from 190 to 250 miles from the sea, while that on the south skirts the sea-coast almost abruptly; it is about the middle of this chain, rugged, barren, and sandy mountains, that the diamond mines of Brazil lie. This chain throws off towards the coast numerous spurs, which present a most picturesque appearance from the sea, especially in the neighbourhood of Rio de Janeiro. We shall find in North America a system of mountains symmetrical with those of Brazil.

General Aspect.—Though this basin is of such immense size, it presents but little diversity of aspect; with the exception of the country near the Andes, and that in the neighbourhood of the sea-coast, it is only an uniform and almost entirely horizontal expanse, where the projections do not rise above 300 feet in height, and where the streams, having no fall, flow into brackish lakes. The plains, now barren and scorched by the sun, now rich in excellent pasturage, now impregnated with salt, overwhelmed with moving sands, or made foul with morasses, are almost deserted, without roads or towns, and partly peopled by independent savages. They afford food to an immense number of horses and cattle, the innumerable progeny of those imported about 1530. The horses wander about in herds of from 8 to

10,000: they are easily broken in, and the *Guachos*, the semi-barbarous inhabitants of these solitudes, cannot take a step without their horse, which they ride with consummate skill, and with which they will often travel a distance of 250 to 500 miles; their cattle, which are of great size and strength, provide them with food, clothing, ropes, vessels, soap, oil, and the materials for making their huts and their fire. The Guachos, who are actually the descendants of the Spaniards, have lost almost every trace of civilization; they lead a nomadic life, and have no occupation besides the care of their flocks and herds; these Bedouins of America, robust, fierce, superstitious, and destitute of all political ideas and even of patriotic instincts, have nevertheless played a great part in the war of independence.

Coast.—Between the mouths of the Negro and Plata, the coast is low and barren, and intersected by wild torrents; it forms part of the Argentine Republic. Beyond the mouth of the Plata and as far as the island of Santa Catharina, it is still low and fringed with large lagoons; from the island of Santa Catharina as far as Cape San Thome, it is skirted by mountains hanging precipitously over the sea, populous, fertile, and abounding in good harbours; beyond Cape San Thome as far as Cape San Roque, the mountains recede and the coast, opened up by numerous bays and traversed by many large streams, presents the richest aspect; these three last portions belong to Brazil.—Ports: San Pedro, at the mouth of the lagoon of Los Patos, on an immense bay defended by several forts.—2. Santa Catharina, on a very fertile island, with a good harbour defended by two forts.—3. Rio de Janeiro, capital of the Brazilian Empire, in an admirable country and a most picturesque situation, on a large bay, which forms one of the finest havens of America, the entrance to which is defended by the citadel of San Sebastian, and by several forts; it is the greatest trading town, and the most populous in South America; pop., 296,000. It contains the naval and military arsenals, the naval, military, and engineering schools, &c. Taken by Duguay Trouin in 1711.—4. San Salvador de Bahia, on Todos Santos bay, which forms an excellent harbour; it is the chief place of war, and principal naval port of the empire; it contains a large naval arsenal, ship-building yards, &c., its main defence is the Sea Fort, constructed on an iso-

lated rock; pop., 160,000.—5. San Antonio de Recife or Pernambuco, a busy commercial town, well fortified on the sea-side; pop., 60,000.—6. Parahyba, a port defended by two fortresses.

Streams South of the Plata.—The *Colorado* rises in the Chili Andes and flows from N.W. to S.E. North of this river are some considerable streams coming from the Andes and losing themselves in marshes of the interior. The most remarkable is the *Desaguadero*, which contains in its basin Mendoza, a town lately destroyed by an earthquake, near which is the rich silver mine of Uspallata. Here passes the only road connecting Buenos Ayres with Santiago, which, in spite of the numerous defiles by which it is crossed, is one of the most frequented passes of the Andes. It flows through immense pampas, the fall of which is so small, that it is connected by a natural canal with the Rio Negro, passes through the solitudes, over which wander the *Aucaes*, independent savages, and ends after a course about 900 miles in length.

Course of the Plata.—The *Rio de la Plata* or *Plate River*, is called *Parana* until its confluence with the Uruguay. It rises in the Sierra de Villa Boa, behind the Tocantin, flows from N.E. to S.W., through several provinces of Brazil, almost desert, or roamed over by wild and independent Indians; it serves as the boundary between Paraguay on the one hand, and Brazil and the Argentine Confederation on the other; it traverses from east to west the lagoons of Ybeira, receives the Paraguay near Corrientes, flows from north to south in the Argentine Confederation, passes near Santa Fe, a trading town with a population of 20,000; turns S.E., and unites with the Uruguay by several mouths after a course 1,740 miles in length. It then resembles an arm of the sea, which is 90 miles in width before Buenos Ayres, and ends by a mouth 150 miles wide. On the right of this vast sheet of water lies Buenos Ayres, capital of the Argentine Confederation, one of the wealthiest and most populous cities of America, the centre of the commerce of the old world with the interior of South America and the coast of the Pacific; its harbour is obstructed by sandbanks, and its only defence is a single fort; population 120,000, of whom 20,000 are French and British; taken by the British in 1806, and attacked by them in

1807. On the opposite bank of the river lies MONTE VIDEO, capital of the Republic of Uruguay or Banda Oriental, a fortified town, with a shallow harbour and 45,000 inhabitants, 10,000 of whom are French; taken by the British in 1806, and by the Brazilians in 1821.

Tributaries on the Right. — 1. The *Paraguay* rises in the Campos de Parecis, flows from north to south, constantly augmented by numerous streams, through a flat and marshy country which it completely inundates; it washes FORT BORBON, a Brazilian post, situated at the point of intersection of the frontiers of Brazil, Bolivia and La Plata; it separates Brazil from Bolivia, and Paraguay from La Plata; washes ASUNCION, capital of Paraguay (population 40,000), and falls into the Parana after a course of about 1,000 miles in length.

The Paraguay is separated from the Parana by the Sierra Amambahy, which is pretty high, and on this side it receives only very small streams; but on the side of the Andes it has large tributary streams:—1, the *Pilcomayo*, which rises in the water-parting that gives origin to so many of the rivers of South America at the foot of the Serrania of Chayanta; it passes between Chuquisaca on the left and Potosi on the right.—CHUQUISACA or Sucré, capital of the Republic of Bolivia or Upper Peru, lies on a tableland 9,330 feet high, which belongs to the water-parting of the Paraguay and Amazon; it contains 20,000 inhabitants.—POTOSI, a large decayed town, situated at a height of 13,664 feet, at the foot of the *Cerro de Potosi* (16,037 feet). This mountain, so famed for its silver mines, produced between 1545 and 1749, 5,750,000,000 pounds of silver; it still yields annually from 3 to 400,000 marks. The Pilcomayo flows through the south part of Bolivia in a S.E. direction; it then passes into the Chaco, a country occupied by savage, fierce, and warlike tribes, partly belonging to the Argentine Republic, and ends by several branches below Asuncion, after a course of 845 miles.

2. The *Vermejo* rises in the Tacsora Hills, flows through the Llanos de Manso, and ends above Corrientes, after a course of about 550 miles.

3. The *Salado* rises in the plateaus of Salta, passes near SALTA, a small town celebrated in the war of independence, flows

through the Llanos de Tucuman, and ends near Santa Fe, after a course of 620 miles.

Several other streams have the same direction as those we have mentioned, and ought to fall into the Parana; but the country is so flat, that they are lost in lagoons in the interior; among them is the *Dolce*, which passes TUCUMAN, an important town, in the environs of which is a citadel that was celebrated during the war of independence as the seat of the Congress. Between the Dolce and the Desaguadero lie immense *llanos*, which contain some places of importance: CATAMARCA, which possesses great mineral wealth; CORDOVA, celebrated in the war of independence, &c.

Tributaries on the Left.—They are very numerous, and all rise in the coast chain of Brazil. The most noteworthy are:—1. The *Tiete*, which rises near SAN PAULO, a large Brazilian town near the sea, with which it is connected by a fine road over the mountains; it passes near SOROCABA, important on account of its imperial forges, flows from S.E. to N.W., and joins the Parana in the Gayapos country.

2. The *Uruguay* rises behind the mountains of Santa Catharina, separates Brazil and the Republic of Uruguay from the Argentine Confederation; flows from north to south parallel to the Parana, washes no remarkable place, and ends by a very large mouth above Buenos Ayres, after a course of 550 miles. It is rapid, broad, obstructed by falls, and navigable for 175 miles.

Streams N.E. of the Plata.—They are very numerous and important between Capes San Thome and San Roque; the largest is the *San Francisco*, which flows through a long narrow basin from S.W. to N.E., between the coast chain of Brazil and the Sierras Vertentes. In its upper part and in the group of Itacolumi, where the San Francisco, Parahyba, Rio Grande, &c., rise, lies the diamond and gold-washing district. DIAMANTINA, formerly TEJUCO, is the chief town of the mining operations; and OURO PRETO, formerly VILLARICA, is the most important manufacturing town. Nearly all the streams of this region contain diamonds and gold. The annual production of the gold-washings is 1,200,000*l.*, and that of the diamonds 20,000 carats (the carat weighs 4 grains, and its first cost in mining is about 1*l.* 14*s.*) The length of the San Francisco is about 1,050 miles; it forms

numerous cataracts, washes no place of any note, and ends on the north of Sergipe.

Political Divisions.—The basin of the Rio de la Plata contains politically: 1. The *Argentine Confederation* or *United States of La Plata*, lying between the Uruguay, the Parana and the Paraguay on the east, the Atlantic Ocean and Rio Negro on the south, the Andes on the west, and a conventional line cutting the Pilcomayo on the north.* It formerly belonged to the Vice-royalty of Buenos Ayres. In 1810 the province of Buenos Ayres proclaimed its independence, and the other provinces followed its example; they then formed a confederation of fourteen States under the presidency of the celebrated Ribadavia. Anarchy and civil wars broke up this union; and these states formed so many independent republics, given over to perpetual revolutions. The federation was then re-established by Rosas, but since the fall of this dictator, the country is again abandoned to anarchy. The Argentine Republic is 1,740 miles in length, by 1,000 in breadth, and its population numbers 1,300,000.

The *Cisplatine Republic* or *Uruguay*, lies between the Uruguay, the Plata, and Brazil. This state formerly formed part of the Vice-Royalty of Buenos Ayres; it revolted in 1811, was governed for nine years by General Artigas, annexed to Brazil in 1821, and declared independent in 1828; it is 90 miles in breadth, and 250 in length; pop., 300,000.

The *Republic of Paraguay* lies between the Paraguay and the Parana. This country, formerly one of the wildest in America, was civilized and cultivated by the Jesuits, who in 1610 founded missions there, the most glorious achievement of this celebrated order. These establishments were a sort of Christian republics, under the rule of the society and under the protection of the king of Spain, in which by the exertions of able and learned priests, the anthropophagous, brutal and miserable Indians, were changed into men and Christians: this was a great novelty in America, where the natives had previously been treated so barbarously by the Europeans. These missions went on prospering until the destruction of the order of the Jesuits in 1763; they

* Portions of the country whose boundaries are here defined are claimed by the Republics of Paraguay and Bolivia (see next page).

then fell under the sway of the king of Spain, and were treated like the other colonies; their prosperity was at once checked, and their population fell in ten years from 92,000 to 42,000; still the Jesuits' labours had left seeds behind them, and the Indians continued to civilize themselves. In 1810, Paraguay revolted; but in place of making common cause with the other provinces of the Plata, it remained isolated and fell under the rule of Dr. Francia, an able and sanguinary despot, who refused admission to all foreigners into his state, and covered it with fortresses in order to stop the pillaging propensities of the fierce Indians surrounding it. Since the death of Francia in 1840, Paraguay has become a republic governed by an elective president; and it has resumed communication with neighbouring countries. It has been for several years at war with Brazil and the Argentine Republic. Population, 390,000.*

4. The western part of Brazil.
5. The southern part of Bolivia.

§ III.—BASIN OF THE MARAÑON (AMAZONAS).

This basin is formed by the north watershed of the central chain from the Serrania of Chayanta to San Roque, by the east watershed of the Andes of Peru from Chayanta to the plateau of Pasto, lastly by the south watershed of the Andes of Bogota and Caracas as far as the Gulf of Paria. General direction: from west to east.

Description of the Enclosing Belt.—The chain of heights between the Marañon and Plata presents no remarkable features on its north side.

The Andes, from Chayanta to the tableland of Almaguer, form a large semicircle, with its concavity facing the east, and here (between 14° and 20° S. lat.) is the central nucleus of the whole system. At the southern extremity of the Bolivian Andes

* This is the population of Paraguay proper, *viz.*, the district lying between the Paraguay and the Parana; but the Republic of the present date claims the Chaco country on the west of the Paraguay, and part of the country lying between the Parana and Uruguay (both districts also claimed by the Argentine Republic), and its total population, according to the census of 1857, amounts to 1,337,431 inhabitants.

the chain divides into two large branches, which embrace the interior plateau occupied by the lakes of *Atacama*, *Poopo*, and *Titicaca*. The plateau has a mean height of 13,000 feet, and contains the highest peaks of the new world, as also the central water-parting of the streams of all South America; it is in the eastern Cordillera that these highest points are to be found: the *Peak of Sorata* (21,290 feet), and the *Peak of Illimani* (21,150 feet). After this great tableland, the Andes continue divided into two Cordilleras; that on the east has still the highest peaks, and their backs form a series of narrow and high table-lands, especially towards the sources of the western Marañon. But the most remarkable groups are to be found in the portion of the Andes that lies under the equator: the *Chimborazo* (21,450 feet), the volcano of *Cotopaxi* (18,880 feet), the volcano of *Antisana* (19,150 feet), and *Cayambe* (20,144 feet), rear their heads. The tablelands enclosed among these mountains lie at an elevation of 8,000 feet above the level of the sea, and as they are all environed by mountains which isolate them from the surrounding country, they seem like islands hanging in mid-air. The tableland of Quito from the Mountains of Los Pastos to the Pass of Assuay, presents a flat expanse 9,800 feet high, surrounded by high peaks, ranged in two lines, and forming a double crest; a most wonderful country, where European cereals and fruits grow at a height where in Europe perpetual snow is found. Usually the tableland country is called *sierra;* the name of *quebradas* is given to the immense ravines which cut through the Cordilleras, by which the rivers escape from the tablelands; the name of *valleys* is given to the low country betwixt the western Cordilleras and the coast, which consists of a sandy border from 50 to 62 miles in width.

In the tableland of Almaguer or Pasto the chain divides into three. The eastern branch is the largest; it runs from S.W. to N.E., dividing the basin of the Magdalena from that of the Orinoco, and attains a height of 16,400 feet; then, in the latitude of Lake Maracaibo, it runs from west to east, skirting the coast, and dividing the basin of the Orinoco from the Carribean Sea; here it is of no great height, and it terminates at the Gulf of Paria. We shall describe the central and western branches in connexion with the next basin.

General Aspect.—A basin which comprises one half of South America ought to present a great variety of aspects. Elevated tablelands, temperate and even cold, near the Andes; high rocky barren plains near the Campos Parecis; immense llanos with some unknown mountain chains and impenetrable forests between the Orinoco and Marañon; vast marshes and inundated savannas near the rivers, such are the chief characters of this region.

Coast.—From Cape San Roque to the island of Maranhão, it is fringed with rocks, and opened up by the large mouths of many short and torrent-like streams, which are dry in summer. From the island of Maranhão to the Gulf of Paria it is low, marshy, often inundated by the sea, fringed with a belt of *mangrooes*,* and often inaccessible on account of the sandbanks. The climate is generally moist and scorching.

Streams South of the Marañon.—1. The *Paranahyba* flows from S.W. to N.E., through immense virgin forests, and ends near a town of the same name.

2. The *Itapicuru* flows from S.W. to N.E., and is augmented by several streams, in conjunction with which it forms the island of *Marajão*, on which lies the flourishing port of SAN LUIS, founded by the French in 1612.

3. The *Tocantin* rises in the Sierra Villa Boa, behind the source of the Parana, and flows from south to north through immense deserts over which tribes of savage Indians roam; at Fort *Barra* it receives the *Araguay*, which rises in the same heights and flows through a Brazilian province, abounding in gold mines, but almost unknown; it divides into two great arms at VILLA VIÇOSA: that on the west unites with several arms of the Marañon, and with it forms the marshy island of *Marajo*; that on the east ends in the sea by a mouth upwards of 75 miles in width, and obstructed by reefs and sandbanks, after having passed PARA or BELEM, a flourishing town of 30,000 inhabitants, with a good harbour, and in an unhealthy climate, taken and pillaged by the Indians in 1835.

Course of the Marañon.—This river, the largest in the world, rises in *Lake Lauricocha*, 14,000 feet above the sea, in 10° 30′

* Trees that stretch their branches far out into the sea, to which shell-fish attach themselves.

south latitude, leaving on its left CAJAMARCA (9,600 feet), a town famed for the interview of Pizarro with the last Inca Atahualpa, the massacre of the Peruvians, and the death of that monarch, and near the town of CERRO DE PASCO, in Peru; it flows from south to north, through high mountains; reaches the rapids or *Pongo of Rentema*, near the town of JAEN, in about 6° south latitude, and 1,240 feet above the sea; thence it flows towards the north-east for 100 miles, as far as the Pongo of Manseriche, where it leaves the mountains, and it flows from west to east, through an almost unexplored country covered with forests; enters Brazil at TABATINGA on the junction of the *Yavari*, whence it flows through immense plains, sometimes as bare as African deserts, sometimes covered with verdure like Asiatic steppes; it forms a great number of islands and morasses; it washes MANAOS at the junction of the *Negro*, and SANTAREM at the junction of the *Tapajos*; divides into two great arms, embracing several islands, the most northern of which passes MACAPA, important on account of its harbour and fortifications; it sends off branches which, with the Tocantin, form the island of *Marajo*, and ends by a mouth upwards of 300 miles in width, above which the tide is felt for upwards of 500 miles. The enormous volume of water it discharges in an opposite direction to the currents and tides of the sea, causes a terrible contention between the water of the river and that of the sea. The total length is 3,000 miles. It bears the name of Marañon from its source to the junction of the Yaravi, between which and the Rio Negro it is called *Solimoes*, and below the Negro it is known as the *Amazonas*.

Tributaries on the Right.—They are innumerable, and all flow from S.W. to N.E., through unknown regions covered with forests and morasses, among which wild Indians roam.

1. The *Huallaga*, the *Ucayali*, which receives the *Apurimac*, and the *Purus*, flow through solitudes, and are from 300 to 1,000 miles in length. The Ucayali is navigable for steamers from the Atlantic to within 200 miles of Lima. The *Mantaro* flows into the Apurimac, through the tableland and town of GUAMANGA, passes near HUANCABELICA (12,630 feet), a town celebrated for its productive quicksilver mines, not far from which is *Ayacucho*, a plain renowned for the victory of the Peruvians over the Spaniards in 1824.

2. The *Madeira* is composed of the *Beni*, *Guapay*, and *Guapore*.—The *Beni* rises in the south part of the plateau of Titicaca, not far from LA PAZ, the most flourishing town in Bolivia (pop., 40,000), lying on a tableland 12,000 feet high, at some distance from the peaks of Sorata and Illimani, near some rich gold mines. It flows through a desert part of Bolivia, and its confluence marks the boundary between that state and Brazil. —The *Guapay* rises from the same plateau as the Beni, waters the most populous part of Bolivia, passes not far from SANTA CRUZ DE LA SIERRA, flows through the Moxos country, and ends under the name of *Mamore*.—The *Guapore* washes Villa Bella and the Fort of the *Prince of Beira*, and serves as the boundary between Bolivia and Brazil.—The Madeira, after being joined by the Beni, descends a series of rapids, flows through vast solitudes, and ends below BORBA, after a course 1,800 miles in length.

3. The *Tapajos* and the *Xingu*, large parallel rivers, rise in the tableland of Parecis; they flow through Matto Grosso, a Brazilian province, chiefly inhabited by the independent tribes of the *Bayaguas* and *Borroros*; they flow from S.W. to N.E., through almost desert Brazilian provinces, and end, the former above SANTAREM, the latter above GURUPA. The Tapajos is 800 miles, and the Xingu 900 miles long.

Tributaries on the Left.—1. The *Napo*, *Putumayo*, and *Yapura* flow through vast solitudes occupied by native savages, and are respectively 500, 750, and 1,000 miles in length.

2. The *Rio Negro* rises in Colombia, flows through the northern part of Brazil, inhabited by savage tribes, receives, among other tributaries, the *Casiquiare*, a natural canal connecting the Negro and Orinoco, and ends at BARRA DO RIO NEGRO, or MANAOS, after a course 870 miles in length.

Streams North of the Marañon.—1. The *Oyapok* serves as the boundary line between French Guiana and Brazil; its mouth forms an excellent bay, near which lies a flourishing town.

2. The *Oyak* forms at its mouth an island, on which is CAYENNE, a small town of 6,000 inhabitants, capital of French Guiana, well fortified, with a good harbour defended by a citadel.

3. The *Sinamari* is celebrated for the exile of the victims of the 18th Fructidor.

4. The *Maroni* serves as the frontier line between French and Dutch Guiana.

5. The *Surinam* ends below PARAMARIBO, capital of Dutch Guiana, a good port, defended by forts Zelandia and Amsterdam, and a flourishing town of 20,000 inhabitants.

6. The *Corentyn* serves as the boundary between Dutch and British Guiana.

7. The *Demerara* has near its mouth GEORGE TOWN (Stabroek), the capital of British Guiana, a fine town of 10,000 inhabitants.

8. The *Essequibo* runs through the centre of British Guiana, and is 300 miles in length.

All these rivers are short, shallow, obstructed by numerous rapids, and have very wide mouths. The coast only is occupied by Europeans, all the interior is inhabited by independent and wild Indians.

All the country between the Marañon and Orinoco constitutes Guianas, a vast region only known about the coast, the interior of which is covered by impenetrable forests, low but unapproachable hills, immense and deep morasses, great plains of mud, termed drowned savannas. The heat and moisture being extreme, render the vegetation there very vigorous: the trees in particular are magnificent, and furnish very valuable building-wood: cotton, vanilla, indigo and cocoa are produced there in abundance.

9. The *Orinoco* rises in the unknown sierras of Venezuela, flows from S.E. to N.W., forming a connexion with the Rio Negro by the river of *Casiquiare*, then from S.W. to N.E., forming a semicircle, through regions totally uninhabited or peopled only by savage tribes; on reaching CAYCARA, it takes a direction from west to east, to the end of its course; passes NUEVA GUIANA, or ANGOSTUM, now BOLIVIA, an important town during the war of independence, being the seat of the Columbian Congress. Below VIEJA GUIANA, an unhealthy town, it divides into numerous branches, which embrace a delta with a base 180 miles long, the principal of which is the Boca de Navios, navigable by ships. This river is 1,560 miles in length, it is navigable for 500 miles; the tide is felt for 370 miles, and in its lower part it attains a breadth of 26,240 feet; the water it rolls

into the sea is so great in volume and so rapid, that it freshens the sea-water to a distance of more than 60 miles from the coast. It was the remarkable character of these mouths that led Columbus to believe in 1498 that he had discovered a continent.

Tributaries on the Right.—The *Ventuari*, the *Caura*, and the *Carony* flow through wild, hilly, and unknown districts, where missions were formerly established for the purpose of civilizing the Indians.

Tributaries on the Left.—1. The *Guaviare* flows through the llanos of San Juan, a quite desert country, and ends at SAN FERNANDO.—2. The *Meta* rises in the mountains of Bogota and Casanare, and passes into unknown llanos; its upper basin is traversed by the road from Caracas to Santa Fé de Bogota.—3. The *Apure* has a large basin in Western Venezuela; it receives a great many tributary streams, one of which passes VARINAS, a flourishing town before the war, now the capital of the state of Zamora, and ends below Caycara.

Political Divisions.—The basins of the Tocantin, Marañon, Orinoco, &c., comprise politically:

1. The north part of the empire of *Brazil*. This state, which includes two-fifths of South America, is 2,240 miles in length, and from 1,500 to 1,740 in breadth, but its population, very scattered, and only concentrated on the coast, numbers but 8,330,000 free men, and 1,715,000 slaves. Its army consists of 74,000 men, and its fleet of sixty-seven vessels. The independent Indians, whom the Jesuits attempted to civilize, lead a wandering and miserable life, not only on the tablelands of the interior, but also on the hills of the coast; those in the neighbourhood of Rio Janeiro could only be kept quiet by means of formal treaties. Though they are masters of the greater part of the country, they do not number more than 3 or 400,000. Brazil is the most flourishing and civilized of all the South American states.

2. The greater part of the Republic of *Bolivia*, created in 1823. Population, 2,000,000.

3. The greater part of the Republic of *Peru*. The ancient Spanish Vice-royalty of Peru strove for independence as early as 1808; but it was not till 1821 that the royalists were driven away and the country organized as a republic. In 1823, the new state split into two republics; that of Upper Peru now Bolivia,

which we have just mentioned, and that of Peru. Population of Peru, 2,500,000; army, 16,000 men; navy, ten vessels, carrying ninety-two guns.

4. The west part of the states of Colombia. These states formerly composed the Vice-royalty of New Granada, and the Captain-generalcy of Caracas; these two provinces revolted unsuccessfully in 1808, declared their independence, and constituted themselves as a republic in 1811; again fell under the Spanish yoke in 1813, were delivered by Bolivar in 1819, and proclaimed their union under the name of *Republic of Colombia.* In 1831, this republic split into three independent states: *Venezuela,* capital *Caracas;* pop., 1,560,000; *New Granada,* capital *Bogota;* pop., 2,220,000; *Ecuador,* capital *Quito;* pop., 1,040,000. These republics, as well as those of Upper and Lower Peru, are almost completely abandoned to anarchy; these countries, without population, industry, or enlightenment, imagined they had gained everything in giving themselves republican constitutions, whereas what they needed was an enlightened despotism in order to raise them out of their misery and barbarism.

5. *British Guiana* formed part of Dutch Guiana, and was seized by the British in 1814; it is the most populous and fertile of all the three Guianas; pop., 100,000.

6. *Dutch Guiana,* very flourishing and highly cultivated; pop., 70,000.

7. *French Guiana,* the largest of the three Guianas; it is 400 miles in length by 270 in breadth; but it contains only solitudes, over which independent savages roam; the colonists occupy only 400 square miles of the coast. This colony, notwithstanding its virgin and fertile soil, is languishing, has a bad name, and contains only 26,000 inhabitants. It has lately been converted into a convict station.

§ IV.—WATERSHED OF THE CARIBBEAN SEA.

This watershed forms a sort of triangle, the apex of which is the tableland of Pasto, and its base the coast from the Gulf of Paria to the Isthmus of Panama. It is mainly occupied by the basin of the Magdalena, and is formed by the eastern and western Cordilleras.

Mountains.—We observed that at the tableland of Pasto the chain of the Andes divided into three Cordilleras, and we have already described the largest of these, to wit, the eastern one.—The central Cordillera runs directly north, dividing the valley of the Magdalena from that of its tributary the Cauca; it contains peaks from 13,000 to 18,000 feet in height. The roads that cross it are the most difficult in the Andes; two run from Bogota to Popayan; one, by Sierra Huancas, requires twenty-two hours to travel a distance of forty-seven miles; the other, by the Quindio mountain, passes through a forest twelve hours' march in length, in which the path, which is not a yard wide, seems suspended between heaven and earth.—The western Cordillera continues the water-parting of America, and is not above 4,600 feet in height, and contains such deep gaps, that it would be possible to make a canal through it, which would join the two oceans.—The valleys separating these three Cordilleras are tablelands, through which flow rivers whose beds are at a height of 4,000 to 10,000 feet.

General Aspect.—It is almost all hilly country, containing but few high and fertile plains; the gold mines there are exhausted, but silver, iron, and copper mines have lately been opened.

Coast.—It is high, indented by several gulfs, the most remarkable of which communicates with the lake of Maracaibo, and contains several ports:—1. CUMANA, a decayed town, but still of importance on account of its bay and its fortifications.—2. LA GUAYRA, a small unhealthy town, the sea-port of CARACAS, capital of the United States of Venezuela, lying in a charming valley at a height of 3,018 feet; destroyed in 1812 by an earthquake, and ruined by the war; it still carries on a brisk trade, and contains 30,000 inhabitants.—3. PORTO CABELLO, the best port and the strongest fortress in Venezuela.—4. MARACAIBO, a good port protected by three forts. The lake at the entrance to which this town lies, is 124 miles in length by 75 in width; its islets, studded with houses built on piles, are called *Venezuela* (little Venice), and the name has been extended to the whole province.—5. SANTA MARTA, a decayed town at the top of a large bay, still important on account of its harbour and fortifications.—6. CARTAGENA, one of the finest ports in America, the chief place of

war in New Granada, and the ordinary station of the fleet; it was ruined by the British in 1585, pillaged by the French in 1697, besieged by the English in 1741, and suffered much in the war of independence.

Course of the Magdalena.—This river, whose basin is formed by the eastern and western Cordilleras, rises in the tableland of Almaguer, flows from south to north through the fertile and populous tableland of Cundinamarca; it washes MOMPOX, a large trading town, and ends between Santa Marta and Cartagena, after a course 750 miles in length. It receives:—1. The *Bogota*, a small stream, which forms magnificent waterfalls, and passes BOGOTA, which lies on a tableland 8,958 feet high, capital of New Granada; pop., 40,000; it is built on the site of CUNDINAMARCA, capital of the Muyscas, a very powerful and civilized indigenous nation before the discovery of America.—2. The *Sogamozo* washes TUNJA, the ancient residence of the Muysca sovereigns, now decayed and deserted.—3. The *Cauca*, a river as large as the Magdalena, and separated from the latter by the central Cordillera; it rises close to the Magdalena, flows from south to north through the tableland of Popayan; washes POPAYAN, a fine town, lying at the foot of two volcanoes, and at a height of 6,560 feet; ruined by the war and the earthquake of 1827; ANTIOQUIA, a manufacturing town of 20,000 inhabitants; it falls into the Magdalena below Mompox, after passing through morasses. In this valley were the most productive gold-washings of the New World.

Political Divisions.—Politically this watershed belongs to the states of Venezuela and Colombia.

§ V.—WATERSHED OF THE PACIFIC.

This watershed, very long and narrow, is formed merely by the seashore, from Cape Froward to the Isthmus of Panama; the only streams it has are torrents as rapid as they are short. It is divided into four parts—New Chili, Chili, Peru, and Columbia.

New Chili extends from Cape Froward to the island of Chiloe; the country is either a desert or peopled by independent tribes. The many large islands which fringe the coast seem like frag-

ments detached from the Andes; that of *Chiloe*, the largest and most fertile, is peopled by 59,000 inhabitants, and belongs to the Republic of Chili.

Chili extends from the island of Chiloe to the desert of Atacama; it is a picturesque, fertile, and healthy country, composed of a very narrow seashore, beyond which rise one above another several ranges of hills covered with vines, pasturage, and magnificent forests, behind which rise the Andes, with their fourteen volcanoes and their gold and copper mines. The Chilians are the best horsemen in America, their horses are of an improved Andalusian breed. The south part of Chili, as far as the Biobio, is occupied by the *Araucanos*, and the republic has only isolated settlements there; it is a fertile, temperate, and well-watered country. The Araucanos are a brave, intelligent, native tribe, who have civil laws and a regular government. They breed an immense number of horses and cattle; excellent riders, like the natives of Central Asia, they make incursions into the interior of Chili, where they pillage and carry off everything.—The most remarkable places in Chili are: 1. VALDIVIA, a small town, important on account of its harbour and fortifications; it is in the midst of the country of the Araucanos, who often threaten it in their incursions.—2. CONCEPTION, a good port at the mouth of the Biobio, ruined by the Araucanos in 1823.—3. SANTIAGO, capital of Chili, on the Mapocho; pop., 115,000.—4. VALPARAISO, a fine flourishing port, defended by three forts and batteries, bombarded by the Spaniards in 1866; pop., 70,000.—COQUIMBO, a good port.

A portion of Atacama, belonging to Bolivia, separates Chili from Peru.

The portion of the watershed belonging to *Peru* extends from the desert of Atacama to the Gulf of Guayaquil; it is an admirable country in point of fertility and picturesque beauty, but subject to great heats and frequent earthquakes. The most important places are:—1. AREQUIPA, on the Tambo, near two volcanoes, and at a height of 7,874 feet; pop., 30,000.—2. LIMA, a large and wealthy town, formerly the capital of the Vice-royalty of Peru, near the mouth of the Rimac, founded by Pizarro in 1535; it is surrounded by a bastioned wall, and defended by a citadel, which contains the arsenal; pop., 70,000; subject to

earthquakes, it was half destroyed by that of 1746. Its port is CALLAO, the best fortress and the chief naval stronghold of Peru, with a fine roadstead and three castles; it was completely destroyed by the earthquake of 1746, with all its inhabitants, and twenty-three ships that were at anchor; bombarded ineffectually by the Spaniards in 1866.—3. TRUXILLO, with a bad harbour, founded by Pizzaro.—4. TUMBEZ, the first town where Pizarro landed in 1526.

The portion of the watershed belonging to Ecuador and Colombia extends from the Gulf of Guayaquil to the Isthmus of Panama; it presents the same characters as the preceding region. The most remarkable places are: 1. GUAYAQUIL, a town of importance on account of its harbour and fortifications, the principal naval arsenal of the State of Ecuador, and the ordinary station of its fleet; pop., 20,000.—2. QUITO, capital of the Republic of Ecuador, situated in the Andes at a height of 9,840 feet, and in a delicious climate, near the source of the Bamba; pop., 76,000; its upper valley is crowned by the majestic and colossal peaks of *Cayambe* directly under the equator, *Antisana*, the highest volcanic mountain in the world; *Cotopaxi*, the most formidable volcano in all the chain.

Political Divisions.—This watershed comprises: 1, the unsubdued territories of the Indians of New Chili; 2, the Republic of Chili, formed in 1823 out of the Spanish Vice-royalty of Chili; 3, the western part of Peru and Bolivia; 4, the western part of New Granada.

Chili is the only one of the Spanish republics which has had no revolutions since it won its independence; it is prosperous, civilized, and has a population of 1,800,000. Its army numbers 3,500 men, and its fleet 14 vessels, carrying 120 guns.

North America.

§ I.—WATERSHED OF THE PACIFIC.

This watershed, which extends from the Isthmus of Panama to Behring Strait, does not present such a well-defined character as the homologous watershed of South America; it is fringed with high mountains, but they do not form so distinctly as the Andes a superb dyke against the Ocean; it is narrow in the south, in

all the isthmus portion of the continent, but in the north it widens and sends down large rivers; lastly, it is deeply indented by the large gulf of California, which cuts out the long peninsula of Old California. It may be divided into two great parts: 1, the southern or Mexican part, from the Isthmus of Panama to Freemont's Peak (sources of the Colorado and Colombia); 2. Northern part, or that of the United States, and Britain, from the Fremont's Peak to Behring Strait.

The southern part is almost the only part known, peopled and civilized; it is fertile, hot, picturesque, rich in minerals, and is bounded by a high chain of mountains called at first the *Cordillera of Guatemala.* This chain is all volcanic, and has peaks 15,750 feet high; like the Andes, of which it is the continuation, it has its precipitous slope towards the Pacific. In the latitude of Oajaca, it takes the name of *Cordillera of Mexico,* has its highest point in the volcano of *Popocatepelt* (17,716 feet), and divides into two branches running close to both seas, and containing between them very high tablelands. These two branches separate, and the tablelands become always wider as far as the latitude of Chihuahua, where the two Cordilleras appear to unite in order to skirt the course of the Rio del Norte as far as Fremont's Peak.—The most important places are:—1. PANAMA, a fortified and commercial town at the head of an immense gulf, whence a railway runs to Chagres, connecting the two seas.—2. REALEJO, important on account of its fine harbour and dockyards.—3. GUATEMALA, capital of the republic of that name; pop., 40,000.—4. OAJACA, a large town on the Rio Verde, in an admirable position; pop., 25,000.—5. ACAPULCO, a small town in an unhealthy climate, with a fine harbour, very important for the communications of Mexico with the East Indies.—Between Acapulco and Oajaca is the small basin of the *Tlascala* (or Zahuapan), a stream that rises in the tableland of the centre, washes TLASCALA, formerly the most important town in the country, after Mexico; it constituted a republic, the rival of the latter town, and its inhabitants entered into an alliance with Cortez in order to capture and ruin it. The Tlascala further passes PUEBLA, the second town of Mexico, with a population of 75,000, taken by the French in 1863 after a murderous siege and the battle of *San Lorenzo.*

On the north of this small basin the continent widens, and some large rivers flow through the tablelands of the interior. The most remarkable of these is the *Rio Grande*, which rises in the tableland of Mexico, at the foot of the Nevado de Toluca; it flows from S.E. to N.W., and has in its upper basin, on the left, VALLADOLID; on the right, QUERETARO, a large and wealthy town, with 48,000 inhabitants, where the ill-fated Emperor Maximilian was betrayed into the hands of the Republicans and shot in 1867; it receives from the north the *Silao*, which has in its basin some very remarkable places: 1. SAN LUIS POTOSI, pop., 34,000, famed for its silver mines.—2. LEON, a small town renowned in the war of independence, and in the environs of which we find: Fort *Sombrero*, built on a mountain by the patriots, and the bulwark of the Mexican revolution.—3. GUANAJUATO, a large town on a tableland, 6,560 feet high, with 63,000 inhabitants; the district around it contains the richest silver mines in the world; La Valenciana, one of the most productive, yielded annually, before the revolution, from 360,000 to 630,000 marks.—After the confluence of the Silao, the Rio Grande flows through Lake *Chapala*, a magnificent sheet of water, which contains the islet of *Mascala*, the refuge of the patriots during the war of independence; it then passes over GUADALAJARA, a fine town of 70,000 inhabitants, forms superb cataracts, and ends near SAN BLAS, a small town, important on account of its naval arsenal.

Beyond the basin of the Rio Grande the tablelands of the interior become wider, and are so large between the basin of the Rio del Norte and the small streams that fall into the Pacific, that they contain streams without an outlet: their general height is from 6,500 to 7,800 feet. The only noteworthy towns there are ZACATECAS and DURANGO, in the environs of which are rich silver mines. The coast of the Pacific commences to be very scantily inhabited and wild, with few and small towns; the most remarkable is GUAYMAS, an important port on the Gulf of California. The peninsula of *Old California*, 750 miles in length, is a dry, sandy, and almost desert country: it contains not more than 12,000 inhabitants. On the north of this peninsula and of the Gulf of California commences the states of *California* and *Nevada*; the country which they occupy together with the ad-

jacent territories was discovered by the Spaniards, for a long time formed part of Mexico, but was annexed to the United States in 1848. This country, which is heaved up by the spurs of the Rocky Mountains, has a very fertile soil, a healthy climate, and a small number of streams. The chief of these are: the *Colorado*, which falls into the Gulf of California, and whose basin now forms parts of the Territories of Utah, Colorado, and Arizona, in the United States; the *Sacramento* and *San Joaquin*, which unite to fall into the bay of San Francisco after receiving a large number of streams; their basins abound in gold deposits and mines, which were only discovered a few years ago, and have attracted to this country a great number of European emigrants. California, which was almost uninhabited, has now upwards of 380,000 inhabitants. The principal towns are: SAN FRANCISCO, at the top of a magnificent bay, with a population already amounting to upwards of 100,000, and destined to be a very great city; MONTEREY, at the top of a bay; pop., 20,000.

North of the Mexican frontier the *Rocky Mountains* begin; they run N.W., in very confused groups, the height of which is from 8,000 to 10,000 feet. About the source of the Fraser they begin to approach the coast, doubtless dividing into two Cordilleras, one of which runs N.E., and is entirely unknown; the other skirts the Pacific, and rises in *Mount St. Elias* to a height of 17,850 feet; it probably ends at Behring Strait.

The basin of the Columbia is a fertile country, well watered, covered with pine forests, pretty populous, but cold and little known; it forms a long tableland inclined to the west, and terminating precipitously on the Pacific by a series of rather high groups. It is partly in British America and partly in the United States, contains a few trading forts, and is chiefly occupied by Indians, who are hunters or fishermen, industrious and peaceable. The *Columbia* or *Oregon* rises in the Rocky Mountains, flows from N.E. to S.W., receives a great many tributaries, the largest of which is the *Lewis* or *Snake* river, and ends at ASTORIA.

Beyond the Gulf of Georgia and the river *Fraser*, which falls into this gulf, the country, which belongs to the British, is pretty fertile, but was almost completely destitute of inhabitants, until the discovery of very rich gold diggings, in 1858, attracted

thither in a short time a population of above 13,000. Farther north the watershed is desert, hilly, inbound, without rivers or vegetation, wandered over by some miserable tribes, who seem to be of the same race as the Kamtchatkans. The Russians, to whom this country nominally belonged until 1867, when they sold it to the United States for seven million dollars, made some settlements there with small wooden forts for the fur trade; it now forms the United States territory of *Alaska*. Near the coast there are many islands: the chief of these is *Vancouver Island*, in the Gulf of Georgia, capital *Victoria*. In the archipelago of *King George III.* is NEW ARCHANGEL or *Sitka*, which was the chief town of the Russian establishments. Farther north-west are the *Aleutian Islands*, which form a semicircle, enclosing the sea of Kamtchatka, and which one might suppose to be the piers of a gigantic bridge, intended to be constructed from one continent to the other.

Political Divisions.—This watershed comprises: 1, the eastern part of the States of Central America; 2, the western part of the Republic of Mexico; 3, the territories belonging to the United States, to British America, and to what was till lately Russian America, now annexed to the United States.

§ II.—WATERSHED OF THE GULF OF MEXICO.

This watershed is divided into three parts: 1, the eastern watershed of the Caribbean Sea, from the Isthmus of Panama to Cape Catoche; 2, the eastern watershed of the Gulf of Mexico, from Cape Catoche to Sabine Lake; 4, basin of the Mississippi.

1.—EASTERN WATERSHED OF THE CARIBBEAN SEA.

This watershed is hot, rainy, unhealthy, scantily peopled, and infested by the warlike tribes of the *Mosquitos*; the forests are magnificent, the mountains inaccessible, the marshes numerous. The chain of the Cordilleras being close to the other ocean, leaves a considerable space betwixt it and the sea, and gives rise to some streams: the most remarkable is the *San-Juan*, which issues from Lake *Managua*, near the town of LEON, flows through Lake *Nicaragua*, which is 174 miles in length by 75 in breadth,

leaves it at Fort *San Carlos*, and ends at Greytown. This would be the shortest route for a water communication between the two seas, for Lake Managua is only from 15 to 20 miles from the Pacific; but the navigation of the San Juan presents great difficulties.

The principal places are: 1. PORTO-BELLO, a ruined town, with a fine harbour, in an unhealthy country; its fortifications were destroyed by the British in 1745.—2. TRUXILLO, a small, fortified, but unhealthy town, with a fine harbour.—3. OMOA, a small fortified town, and busy trading port.—4. VERAPAZ, on a river which falls into Lake Dolce.—5. BELIZE, a small town with a good harbour, the chief town of British Honduras, in the possession of the British, who obtain thence logwood and mahogany. Almost all the basin of the small river Belize belongs to them; but the country is occupied by wild Indians.

2.—EASTERN WATERSHED OF THE GULF OF MEXICO.

The peninsula of *Yucatan*, terminated by Cape *Catoche*, is mostly desert or scantily peopled. On its western coast, which is celebrated for the quantity of mahogany it produces, the only place of consequence is the small town of CAMPECHE (Campeachy).

The semicircular coast of Mexico, from the lagoon of Terminos to that of Sabine, has not a single good port. On the south the watershed is narrow, hilly, very steep, and loses itself in a tableland, where the rivers rise and escape through gaps. On the north the watershed is very wide, and almost flat, and it has some large rivers.

1. The *Tabasco* flows from S.E. to N.W., washes CHIAPA, a town remarkable for possessing an entirely indigenous population; it then flows from S.W. to N.E., and ends near TABASCO, where Fernando Cortez landed in 1521. In its basin and on the banks of one of its tributaries, are the ruins of *Culhuacan* and *Palenque*, some of the greatest and most curious monuments in the world, the works of an unknown people who had attained a high degree of civilization: temples, fortifications, aqueducts, vases, medals, statues, bas-reliefs, &c.: nothing is wanting in these destroyed towns, which must have been from 17 to 20 miles in circumference.

Between the mouth of the Tabasco and Tampico lies VERA

Cruz, an indifferent port, defended by two redoubts, the chief commercial town in Mexico: it was founded by Cortez. The citadel, called *San Juan de Ulloa*, is built on an islet, commands the town and protects the harbour: it is the chief place of war in Mexico; it was taken by the French in 1838 and 1862: the yellow fever is endemic there; population, 15,000.

2. The *Moctezuma* rises in the tableland of *Anahuac* or Mexico. This tableland, one of the most remarkable in the world, is formed by the very ridge of the Cordillera; it is 7,797 feet in height, and is crossed from north to south by a series of five lakes, having 54 miles of superficies. The middle lake is called *Texcoco*, 25 miles in extent, and on its west bank is Mexico, the ancient capital of the Aztec empire, conquered by Cortez in 1521, and partially destroyed by the Spaniards, now the capital of the Mexican empire. This town, one of the finest and wealthiest in the world, has 200,000 inhabitants; it is supposed to have had 300,000 before the arrival of the Spaniards; it was occupied by the French in 1863. On the N.E. lies Otumba, a village built on the ruins of a large town famous for one of Cortez's victories; on the east, Texcoco, a village whose ruins bear witness to its ancient grandeur: it was the capital of the ancient nation of the Acolhues, the most powerful in Mexico before the Aztec conquest; it was also the seat of learning of the empire of Montezuma.—The lakes of Mexico, which expose that city to great dangers by their overflows, are connected with the Moctezuma by the Huchuetoca canal or Rio del Desaque, an unfinished hydraulic work. The river then flows from S.W. to N.E., and ends at Tampico, a modern town founded in 1824, and the best port of the whole coast; it is famous for the defeat and capitulation of the Spaniards, who attempted to reconquer Mexico in 1829.

3. The *Rio Grande del Norte* rises in the Uncompahgra Mountains, in the State of Colorado, flows from N. to S., through the territory of New Mexico, in the United States, passing near Santa Fé, reaches the Mexican frontier at el Pasco del Norte, and flowing S.E. divides Mexico from the United States, and ends at Matamoras, a town of some importance in a commercial point of view, after a course 750 miles in length. Its two principal tributaries are: on the right the *Conchos*,

which passes not far from CHIHUAHUA, a town with 12,000 inhabitants; on the left the Pecos, which flows through New Mexico and Texas.

Between the Rio del Norte and the Mississippi several large parallel rivers flow through the fertile states of Texas and Louisiana. The Mexicans had formed military colonies in Texas, where citizens of the United States came and settled. In 1817, some French military men, exiles from their country, in consequence of the revolution of 1815, attempted to establish a colony on the banks of the Trinidad, under the name of Champ-d'Asile: the government of Mexico prevented them. Since that time Texas, after separating from the Mexican confederation in order to form an independent republic, united itself to the United States of North America. Its capital is AUSTIN, on the Colorado; its chief port, GALVESTON, at the mouth of the bay of that name.

Political Divisions.—This watershed formerly belonged to the vice-royalty of Mexico; it revolted in 1810, obtained its independence in 1820, formed an ephemeral empire under Iturbide, then in 1823 split into two states. The larger, on the north, formed the republic of the United States of Mexico, divided into nineteen states and five territories, which remained for forty years in a state of anarchy, and which was recently transformed into an empire, with the help of a French army, but reverted to the republican form of government shortly after the departure of that army in 1867; the smaller, on the south, at first formed the republic of the United States of Central America, or Guatemala, then split into five independent states, viz.: 1, *Guatemala;* 2, *Nicaragua;* 3, *Honduras;* 4, *Costa Rica;* 5, *San Salvador.* These republics, being perpetually agitated by revolutions, like those of South America, are not in a more prosperous condition.

3.—BASIN OF THE MISSISSIPPI.

It is formed by the eastern watershed of the Rocky Mountains, the southern watershed of a series of heights that separate the basins of the Winnipeg, the St. Lawrence and the Mississippi, and the western watershed of the Alleghanies. Its general direction is from south to north.

Enclosing Belt.—It is only in the latitude of Santa Fé that the western belt commences to be distinct: it is composed of hills of no great height, that hug the Rio del Norte as far as Spanish Peaks. From this group the water-parting is a continuous chain of very tortuous groups, which form the Rocky Mountains as far as a very remarkable summit called Chief Mountain, in lat. 49°, where we find the water-parting of the Columbia (Pacific Ocean), Saskatchevan (Hudson's Bay), and Missouri (Mississippi). Here commences the northern belt, which is only a plateau between Hudson's Bay and the Missouri, and again between the St. Lawrence and Mississippi; it then turns S.E., skirting the interior lakes of the St. Lawrence, and joins the Alleghany mountains near the source of the Susquehanna. The *Alleghanies* form a long chain parallel to the coast of the Atlantic Ocean, from the mouth of the St. Lawrence to the sources of the Alabama; it is made up of several parallel chains, the two principal of which are: on the east, the *Blue Ridge;* on the west, the *Cumberland Mountains.* The culminating point of the former is Clingman Peak in the Black Mountains of North Carolina, 6,940 feet in height; the Adirondack Mountains in New York reached 5,379 feet; and Mount Washington in the White Mountains of New Hampshire is 6,288 feet in height.—The analogy betwixt the Alleghanies and the Brazilian hills is most remarkable; the two systems are only connected with the mountains of the Pacific Ocean by a very obscure tract of elevated country; their height, disposition and direction are nearly the same; lastly, they separate the mouths of two rivers that flow in the same direction: the Mississippi, symmetrical with the Rio de la Plata, the St. Lawrence, symmetrical with the Amazons.

General Aspect.—The country is generally flat, covered with savannahs and forests, fertile and marshy in the vicinity of the rivers; rocky and hilly in the western parts. The west and the north are almost desert, or wandered over by wild Indians; the east and the south begin to be populous and cultivated. The coast is low, marshy, excavated by sea-lakes; it contains only indifferent ports.

Course of the River.—The *Mississippi* rises in a small, marshy tableland, which sends off streams to the Winnipeg to the north,

and the St. Lawrence to the east; it flows from north to south, through the State of Minnesota; skirts the States of Wisconsin, Illinois, Kentucky, Tennessee, and Mississippi on its left bank; and those of Iowa, Missouri, Arkansas, and Louisiana on its right bank; washes forts *Snelling*, *Crawford*, and *Armstrong*; passes St. Louis, an important town at the centre of the internal navigation of North America, near the confluence of the Missouri and Illinois; its population, in twenty years, has risen from 10,000 to 160,000; washes Memphis, Vicksburg, a strongly fortified town, besieged and taken by the Federals in 1865, Natchez, a small flourishing town; it is bordered on the right by verdant savannahs extending as far as the eye can reach, on the left by small hills, covered with trees and impenetrable thickets; it washes Baton Rouge, a very important town for the defence of the delta of the river, and which played an important part in the great secession war; it then flows through an immense alluvial plain, intersected in every direction by rivers, lakes, and islands, divides into several arms, which prolong its course for a considerable distance into the sea, by means of the deposits they form; it then flows in a long peninsula full of marshes and lagoons, an immense aqueous solitude, in which the river every year changes its channels; on the principal arm is New Orleans, a large and rich busy commercial city, the ancient capital of Louisiana, the outlet of all the basin of the Mississippi; pop., 160,000. Founded by the French in 1717, this city is still half French in manners and language; its position and its fortifications make it one of the strongest fortresses in the United States. Attacked by the British in 1814, it repulsed them with great loss. It fell ingloriously to the Federals in 1862, without making an effort to defend itself. The climate is unhealthy, and the yellow fever makes great ravages among its population.—The course of the Mississippi is about 3,200 miles long; it is obstructed by numerous falls and sand-banks, but navigable for many hundreds of miles.

Tributaries on the Right.—1. The *Missouri* rises in the Rocky Mountains, flows first from S.W. to N.E., then from west to east, through the territory of Montana, where it receives several tributaries. On reaching the territory of Dacotah, it

inclines from N.W. to S.E., through that territory, and then divides the states of Nebraska and Kansas from Iowa and Missouri; flowing eastward through Missouri it washes JEFFERSON, and ends near St. Louis, after a course 3,000 miles in length. The length of its course, the number of its tributaries, and the volume of water it brings down ought to make it to be regarded as the main river, which in that case would be, not 3,200, but more than 4,300 miles in length. Its tributaries are: the *Yellowstone* on the right, which flows from S.W. to N.E., and is 550 miles long; the *Platte*, on the right, which flows from west to east, through the State of Nebraska, and is 620 miles long; the *Kansas*, which runs from west to east, and is 400 miles long.

2. The *Arkansas* flows from N.W. to S.E. through the States of Colorado and Kansas, passes into the Indian Territory allotted to settled and agricultural Indians, who are partially civilized; it ends below the post of ARKANSAS, after a course of 2,173 miles in length.

3. The *Rio Roxo*, or *Red River*, rises in the territory of New Mexico, flows through a part of Texas, and separates that state from the Indian Territory; crosses Louisiana; forms several lakes, and ends between Natchez and Baton Rouge.

Tributaries on the Left.—1. The *Illinois* rises on the south of Lake Michigan, runs through the state of Illinois from N.E. to S.W., and ends near the Missouri.

2. The *Ohio* is formed by two streams: the *Alleghany* on the north, which rises among the rocks of Lake Erie; the *Monongahela* on the south, which rises in the Alleghany Mountains; they unite at PITTSBURG, a very flourishing town, with a cannon foundry and an arsenal. Thence the Ohio flows from N.E. to S.W., it washes MARIETTA and PORTSMOUTH, small towns, in whose environs are found ruins of the buildings of some totally unknown indigenous people, who must have been quite different from the natives found by the Europeans when they reached the New World: these ruins consist chiefly of fortifications; similar ones are met with not only on the Ohio, but from Lake Erie to the Gulf of Mexico, and from the Mississippi to the Rocky Mountains, particularly near the Missouri.—The Ohio next washes CINCINNATI, a very flourishing city, the population of

which has increased in thirty years from 2,000 to 160,000; it is the centre of the trade of the Ohio; it then separates the states of Kentucky and Indiana, washing several new towns, and ends after a course 950 miles in length. The importance of this river is immense, owing to the communications it opens up between the states bordering on the sea and lakes and those of the Mississippi. Its tributaries are: 1, the *Scioto* on the right, which passes COLUMBUS, capital of the state of Ohio, and ends at Portsmouth; here commences the great Ohio and Erie Canal, which connects the Ohio with Lake Erie, and joins the St. Lawrence to the Mississippi, and Quebec to New Orleans; its length is about 300 miles;—2, the *Kentucky* on the left, washes FRANKFORT, capital of the State of Kentucky, a finely diversified, fertile, and picturesque country;—3, the *Wabash* on the right, separates the state of Indiana from that of Illinois, and receives the *White River*, which passes INDIANOPOLIS;—4, the *Cumberland* on the left, washes NASHVILLE, capital of the state of Tennessee;—5, the *Tennessee* on the left, skirts the Alleghany Mountains, flows from N.E. to S.W., then turns from south to north, and ends near the Cumberland; it flows through the state of Tennessee, a mountainous and very fertile country, of which the Cherokees possess a portion, in which they form a tolerably civilized community.

RIVERS ON THE EAST OF THE MOUTH OF THE MISSISSIPPI, AS FAR AS CAPE FLORIDA.

1. The *Mobile* is formed by the *Tombigbee*, which washes TUSCALOOSA, capital of Alabama state, and the *Alabama*, which washes CAHAWBA; it splits into two arms, which fall into a bay at the top of which is MOBILE, an important town founded by the French in 1701, often devastated by the yellow fever: the entrance to the bay is defended by several forts; it was vainly besieged by the Federals during the secession war.—The state of Alabama, low, marshy, and unhealthy on the coast, hilly, fertile, and salubrious in the interior, is one of the regions where European emigrants abound; its population has risen, in thirty years, from 10,000 to 290,000.

2. The *Appalachicola* is formed by the confluence of the Chattahoochee and Flint rivers on the S.W. extremity of

Georgia, and ends near Cape San Blas. The Chattahoochee rises in the Alleghany or Appalachian mountains, and partly separates the states of Alabama and Georgia. The *Flint* passes Forts *Early* and *Scott*.

Between the mouths of these two rivers is *Pensacola* Bay, at the head of which is a small town of the same name, of great importance on account of its naval arsenal and its harbour, which is the safest in the Gulf of Mexico.

Western Florida, a portion of the Florida peninsula, is almost a desert country, containing no place of importance.

Political Divisions.—The basin of the Mississippi belongs to the United States of North America.

§ III.—WATERSHED OF THE ATLANTIC OCEAN.

This watershed is divided into two parts: 1, the watershed of the Alleghanies; 2, the basin of the St. Lawrence.

1.—WATERSHED OF THE ALLEGHANIES.

Wide in the south, narrow in the north, intersected by fine rivers, mountains of no great height, superb undulating ground and plains, this watershed is the best cultivated, the most populous, and the most civilized part of the New World. The coast is fringed with lagoons and small islands.

On the south the first region we meet with is Eastern Florida, which presents the same character as Western Florida; it is a flat country, of which the coast is sandy and barren, and the interior abounds in forests and marshes: the water-parting is marked by low hills and rocks. It is traversed from south to north by the *St. John* river, which passes through several lakes, and is 250 miles in length. The capital is ST. AUGUSTINE, a small fortified town.

The rivers of this watershed are very numerous:

1. The *Alathama* runs through the state of Georgia, washing MILLEDGEVILLE, its capital.—This state is a country full of heaths and marshes, whose coast is fringed with low islands: it is well peopled, and contains gold mines.

2. The *Savannah* flows from N.W. to S.E., washes AUGUSTA, a

commercial town, and ends at SAVANNAH, a good port, besieged by the French in 1778. It separates Georgia and South Carolina.

Between the mouths of the Savannah and Congaree lies CHARLESTON, an immense and safe port, defended by three forts, the taking of one of which, *Fort Sumter*, by the State authorities from the Federal troops in 1861, was the commencement of the sanguinary war of secession; the town itself maintained an obstinate resistance to the Federal forces throughout that war; pop., 40,000.

3. The *Congaree* flows from N.W. to S.E., washes COLUMBIA, capital of South Carolina; receives the *Wateree*, which passes CAMDEN, a small town, where the British beat the Americans in 1780, and takes the name of *Santee* before falling into the sea. South Carolina has a warm and moist climate, its soil is barren along the coast, fertile in the interior, and almost everywhere marshy: cotton, indigo, and rice are raised there. One-third of the population are negroes.

4. The *Cape Fear* river washes FAYETTEVILLE, a trading town, flows through an unfertile and healthy region, and ends near Cape Fear, before which is WILMINGTON, with a good harbour and important fortifications. This port was of great use to the Confederates during the secession war.

5. The *Neuse* passes near RALEIGH, capital of North Carolina, and ends in Pamlico Sound, near which is BEAUFORT, a good port, well fortified.—North Carolina presents nearly the same characters as South Carolina: it contains gold mines.

6. The *James* river rises in the Blue Ridge, washes RICHMOND, capital of Virginia, and of the Confederate States while they existed as an independent country; a busy commercial town before the war, with an arsenal, a cannon foundry, a manufactory of small arms, &c.; it becomes very broad, and ends at the southern extremity of Chesapeake Bay. Near its mouth it receives the *Elizabeth*, a wide and short stream that washes NORFOLK, a good port well fortified, in the environs of which is the village of GOSPORT, important on account of its great naval arsenal, the largest in the Southern States.—HAMPTON roads, not far from Norfolk, is destined to be the place of assemblage of the naval forces of the United States. Here it is that the ships constructed at Philadelphia and Washington collect,

after having received their armament at Norfolk. This important position commands Chesapeake Bay; it is defended by Fortress *Monroe*, a citadel, which contains the school of practical artillery, and whose fire crosses that of Fort *Calhoun*, built on a sandbank; these works again are supported by several other positions, which seal the roads.

7. The *York* river rises near CHARLOTTEVILLE, in whose neighbourhood are some productive gold-mines; it washes YORK TOWN, where, in 1781, Lord Cornwallis and the whole British army surrendered to Generals Washington and Rochambeau; it ends in Chesapeake Bay.

The James, York, &c., flow through Virginia, one of the largest States of the Union, before its division into two by the Federal Government during the secession war in 1863: out of a population of 1,500,000 there are about 500,000 negroes. The coast is low, marshy, and sandy; near the Blue Ridge, the soil is fertile, picturesque; between the Blue Ridge and the Alleghanies is a large, very fertile, hilly valley, filled with iron mines, through which flow the Potomac and the Shenandoah.

8. The *Potomac* rises in the Alleghanies, runs between that chain and the Blue Ridge from S.W. to N.E., turns to the S.E., serving as the boundary between Virginia and Maryland; receives the *Shenandoah*, which flows parallel with the upper part of the Potomac on the western side of the Blue Ridge, passing not far from WINCHESTER, famous for several battles during the secession war; it then washes WASHINGTON, capital of the United States, seat of the two chambers of the Government and of the President, naval arsenal, artillery depôt, safe commercial port; pop., 61,000; burnt by the British in 1814. Opposite Washington, on the west side of the river, is ALEXANDRIA, not far from which is the famous battle-field of *Bull Run*, where the Confederates beat the Federals at the commencement of the secession war in 1862. It next passes MOUNT VERNON, place of residence, death, and burial of Washington, and ends in Chesapeake Bay. This very important river separates the Northern from the Southern States of the Union; it is navigable for the largest ships up to Washington, and is connected with the Ohio by a canal 340 miles in length, in the course of which are 398 locks.

9. The *Patapsco* flows through Maryland, and falls into Chesapeake Bay, after washing BALTIMORE, a great trading and manufacturing town, with a large and safe harbour defended by Fort M'Henry, the Federal arsenal of naval architecture; pop., 212,000; battle of 1814, in which the Americans beat the British.

10. The *Susquehanna* is formed by two large branches which rise in the most northern heights of the Alleghanies; it washes HARRISBURG, capital of the State of Pennsylvania, and ends at the top of Chesapeake Bay, after having flowed through Pennsylvania, a hilly, fertile, and populous state. This river is connected with the Ohio by a system of canals nearly 1,100 miles long. Nearly midway between Harrisburg and Washington is GETTYSBURG, near which the Federals beat the Confederates, when the latter attempted an invasion of the Northern States, in 1863.—*Chesapeake Bay* is one of the most remarkable points in the world; it makes a deep excavation in the continent from south to north, for a length of 174 miles, and a width of from 25 to 75. Its central position, the numerous rivers it receives, the number and excellence of its ports, make it of incalculable importance; by it the heart of the United States may be reached: accordingly, its entrance is protected by a system of defence almost impossible to be forced. It is separated from Delaware Bay by a large peninsula and connected with it by a canal, navigable by vessels of 300 tons, dug through this peninsula.

11. The *Delaware* flows from north to south, separating Pennsylvania from the States of New York and New Jersey; it washes TRENTON, capital of New Jersey, an agreeably diversified state, where sandy and fertile soils alternate; PHILADELPHIA, a manufacturing town, the second in the Union in point of population, the third in point of mercantile marine, with a large and safe harbour, naval arsenal, &c.; pop., 562,000. It was in this town that the Congress of 1776 made the declaration of independence of the United States. It then forms some low islands, one of which, defended by Fort Muffing, is celebrated in the War of Independence, passes near WILMINGTON, a Federal naval arsenal, pop. 21,000, and ends below SALEM, in Delaware Bay.

12. The *Hudson* rises in the heights enclosing Lake Champlain, flows from north to south, passes not far from SARATOGA, where, in 1777, the British capitulated to the Americans; washes ALBANY, where the canal from the Hudson to Lake Erie commences, WESTPOINT, the military school of the United States, and ends at NEW YORK, the busiest commercial, most populous and most important city in the States, the second commercial city in the world; it lies at the head of a great bay, and on the Island of Manhattan; in its environs are Forts *Columbus, Castle William, Lafayette* and *Richmond*, which defend the entrance of the harbour; the large island, called Long Island, which forms between itself and the mainland Long Island Sound, contains important fortifications and the naval arsenal of BROOKLYN. New York is the capital of the State of New York, the most important and populous of all the States; it is also the head-quarters of the eastern military division of the Union; in 1774 its population was 22,000; in 1820, 123,000; in 1840, 312,000; now it has upwards of 1,000,000 inhabitants, and with Brooklyn, above a million and a quarter. The value of its annual imports exceeds 40,000,000*l.*, and its shipping measures 500,000 tons. Its position is admirable, at the mouth of a river which, rising near Lake Champlain, is connected with that lake and with Lake Erie by two superb canals, and has itself the appearance of a wide and deep canal regularly cut through the rocks that enclose it.—The Hudson receives the *Mohawk*, which is skirted by the Erie Canal; it is upwards of 300 miles in length. The system of the water navigation of the Hudson and Lake Erie amounts to 566 miles of canals.

13. The *Connecticut* flows from north to south, separating Vermont from New Hampshire, cuts through Massachusetts and Connecticut, highly diversified, well-cultivated and populous countries, washes SPRINGFIELD, a small town of importance on account of its arsenal and its large manufactory of small arms, and ends in Long Island Sound, after a course of 310 miles in length.

The remaining streams become smaller and smaller, and present nothing noteworthy; but on the coast we find:—1. NEWPORT, in Rhode Island, a town of importance on account of

its magnificent roadstead, the only one of the United States' ports practicable for ships in a N.W. wind, the direction of the most violent hurricanes on this coast; in consequence of the naval and military advantages of this position, the town has been fortified.—2. PROVIDENCE, a fine port on Narraganset Bay, capital of the State of Rhode Island.—3. BOSTON, a large and fine city, capital of Massachusetts, at the top of an immense bay with a fine harbour defended by two forts; pop., 177,000. Near it is CHARLESTOWN, important for its naval arsenal, one of the masterpieces of naval architecture; in the environs is *Bunker's Hill*, celebrated for one of the first battles in the War of Independence.—4. PORTSMOUTH, a fine port, well fortified, and a Federal naval arsenal.—5. PORTLAND, capital of the State of Maine, one of the best ports on this coast.

Political Divisions.—The watershed of the Alleghanies belongs entirely to the *United States of North America*. This confederation is bounded on the east by the Atlantic Ocean, on the north by British America,* on the west by the Pacific Ocean, on the south by Mexico and the Gulf of Mexico. It consists of 37 sovereign states, of a Federal district (Columbia) containing the capital of the confederation, of 9 territories dependent on the Federal Government, and which will become states when the population shall amount to 60,000.† The population consists of three different races:—1. The European race, constituting eight-tenths of the total population, and composed chiefly of British, French, Germans, &c.; 2, the African race, numbering about 4,500,000 negroes, of whom about 4,000,000 were slaves until the end of the secession war in 1865; 3, the American Indian race, composed of nomadic and independent tribes, who retire before the approach of civilization, and are already driven beyond the Mississippi. The North American Confederation forms a great contrast to all the other states of the New World by its civilization, which is as far advanced as that of Europe; by its commercial and manufac-

* The newly acquired territory of Alaska is on the N.W. of British America, and has for its northern boundary the Arctic Ocean.

† Some of the territories were lately constituted states by Acts of Congress, although wanting this population qualification; thus Nevada was admitted as a state in 1864, and Nebraska in 1867, when their population was under 60,000.

turing activity, which is only second to that of Great Britain; by the prodigious increase of its population; lastly, by its government, which presents the unique phenomenon of an absolute democracy without counterpoise. As a people, they are the most arrogant, the keenest trading, the most adventurous, the hardest workers, the greediest after gain in the world. The last to enter civilization, formed of all sorts of peoples, having no past history to embarrass them, they rush towards their future with unparalleled audacity, recklessness, and pride; and rendered confident by a prosperity which has hitherto met with no check, they seem called to fulfil the most glorious destiny, to absorb the whole of America, to effect a transformation in Eastern Asia, and even to influence the oldest nations of Europe. The blot of slavery which so long sullied their scutcheon and might have proved fatal to their further advance in civilisation and greatness, has been effaced in the course of the sanguinary war that was waged with such relentless vigour between the slaveholding and non-slaveholding states from 1862 to 1865; and though the seceding states* have not yet (1867) been restored to their place in the Union, their fair share in the government of the country cannot for ever be denied them. When the wounds caused by the gigantic civil war are healed, and all the states work together in harmony, there seems no limit to the greatness attainable by the powerful North American Confederation.

2.—BASIN OF THE ST. LAWRENCE.

It is formed by the western watershed of the Alleghanies, by the northern watershed of the plateaus which divide it from the Mississippi, by the southern watershed of the low hills which separate it from Hudson's Bay. Thus the enclosing belt of the basin is throughout but slightly marked, and is composed merely of a series of heights interrupted by isolated rocks; still

* The following are the names of the states that attempted for a time successfully to form themselves into a Southern Confederation: *Virginia*, (Eastern), *North Carolina*, *Tennessee*, *Arkansas*, *South Carolina*, *Georgia*, *Florida*, *Alabama*, *Mississippi*, *Louisiana*, *Texas*. These states are not yet represented in Congress, but are treated by the victorious northern states as conquered territories and governed by military rule.

the land there rises by insensible degrees, and the cataracts distinctly mark the change of level.

This basin is quite unique by reason of the great lakes it contains, and which make of it a sort of Mediterranean sea, of which the river St. Lawrence is only the outlet. The country is diversified, fertile, covered with forests and scantily peopled; its winters are very severe.

Coast.—It forms two peninsulas, one on either side of the Gulf of St. Lawrence, and several islands which seal the gulf. —The southern peninsula is *Nova Scotia*, a hilly, fertile, well-cultivated country, opened up by fine ports; it was colonized in former times by the French, who were driven out of it in 1763. The capital is HALIFAX, a good port, the ordinary station of the British fleet, with immense dockyards and important fortifications; it is the great naval establishment of British America. This town carries on a considerable trade; it has numerous and swift communications with Britain, and played a great part in the American wars.—The peninsula on the north is *Labrador*, a collection of mountains and sandy tracts intersected by lakes and rivers, vast and horrible solitudes, almost constantly frozen, over which roam some miserable Esquimaux tribes, whom the missionaries have attempted to civilize. The British have most productive fisheries off the coast.—The islands are:—1. CAPE BRETON, 120 miles in length by 85 in breadth, with a severe climate, fine harbours, and prosperous inhabitants. Its capital is SYDNEY; LOUISBURG, which, under the rule of France, was the rendezvous of her naval forces and the centre of her fisheries, is now but a poor little town.—2. PRINCE EDWARD ISLAND, 75 miles long by 25 broad; it is fertile, and contains some fine harbours.—3. NEWFOUNDLAND is very large, barren, and scantily peopled; its capital is ST. JOHN'S, a fortified town. The great Bank of Newfoundland, which extends on the east of the island to a length of 370 miles, is renowned for the enormous quantity of codfish taken upon it. France alone employs 400 vessels and 10,000 sailors in the cod-fishery; on the south of Newfoundland are the small islands of ST. PETER and MIQUELON, which belong to France, the whole population of which are engaged in the fisheries.

Course of the River.—The small river *St. Louis*, which rises

in the same tableland as the Mississippi and Winnipeg, seems to be the commencement of the *St. Lawrence;* it flows from N.W. to S.E. through the State of Minnesota, and falls into *Lake Superior.*—This magnificent fresh-water sea is 1,750 miles in circumference, and receives more than 40 streams; its banks, closed in by rocks, are occupied by Canada and Minnesota on the north and by Wisconsin and Michigan on the south; on its northern shore is FORT WILLIAM, an emporium of the British fur trade. Lake Superior discharges its waters by a series of rapid descents, called *Sault St. Marie,* into Lake *Huron,* which divides into three branches, and exceeds 1,000 miles in circuit. This latter receives through a strait, commanded by Fort MACKINAW, the waters of Lake *Michigan,* which is 945 miles in circuit, and at the southern extremity of which lies CHICAGO, an important town for the transport by water and railroads of the products of the Western States of America to Europe; Lake Huron runs into Lake St. Clair by the rapid river *St. Clair,* which flows from north to south, and has its entrance defended by Fort GRATIOT. The small lake *St. Clair* flows into Lake Erie by the smooth channel called *Detroit River,* on which lies a town of the same name, important on account of its fortifications, an artillery depôt, an arsenal, &c. Lake *Erie,* stormy and shallow, is 265 miles in length by from 50 to 75 in breadth, and empties itself by the *Niagara;* this stream has its entrance defended by Fort *Erie,* flows from south to north, forms a magnificent waterfall 2,400 feet in breadth and 164 feet in height, and enters Lake Ontario at NIAGARA, a small town defended by a fort. Lake *Ontario* is 500 miles in circuit; on its south bank near its outlet is SACKETT HARBOUR, a small fortified town, important on account of its dockyards and its harbour, where the American fleet is stationed; on the north bank at the entrance of the *Lake of the Thousand Isles* lies KINGSTON, the most strongly fortified and busiest trading town of Upper Canada, with an arsenal, naval dockyards, and a fine harbour, where the British fleet of the interior waters is stationed. At the outlet of the Lake of the Thousand Isles, the River St. Lawrence really begins; it flows from S.W. to N.E., forming numerous islands; it washes PRESCOTT, a village defended by a fort, the point from which the river may be sailed up with schooners; MONTREAL, the first

commercial city in Canada, built on an island, with an arsenal and military magazine in its neighbourhood; pop., 25,000; QUEBEC, capital of British America, in a superb basin where the river is six miles broad, and where several fleets might ride at anchor; it is one of the strongest fortresses in America: its arsenal contains arms for 100,000 men; its citadel, built on Cape Diamond, and capable of holding 10,000 men, is considered impregnable. The town, which carries on a brisk trade, has 50,000 inhabitants. Battle of 1759, in which the French were defeated, the British general, Wolfe, being killed in the moment of victory. Near it is the island of *Orleans*, remarkable for its ship-building yards. Here the river becomes so broad that it looks like an arm of the sea; it ends at the island of *Anticosti* by a broad gulf. Its course from Montreal is about 580 miles in length.

Tributaries.—The lakes being closely hugged by the belt of the basin receive only small rivers; the St. Lawrence itself has only a few noteworthy tributaries: 1, the *Ottawa*, on the left, which passes through several lakes, forms five waterfalls, and is of difficult navigation; it passes, on the right, Fort BYTOWN, at the outlet of a canal passing through Lake Rideau, and connecting the Ottawa with Lake Ontario; it passes, on the left, OTTAWA, where the representative houses of Canada assemble, and ends before Montreal. In its basin reside the remnants of the Iroquois nation, once so powerful, and now scattered among a few wretched hamlets. 2. The *Richelieu* or *St. John*, on the right, the outlet of Lake *Champlain*, a very remarkable lake, opening, as it does, a commercial and military communication between Canada and the United States; at its mouth is Fort WILLIAM HENRY, and its navigation is commanded by the *Ile aux Noix*, which contains important fortifications and ship-building yards. 3. The *Saguenay*, on the left, drains off the water of Lake St. John, and has five cataracts.

Political Divisions.—This basin is almost equally divided between the United States and British America. The line of the lakes forms the boundary between the two nations, excepting Lake Michigan, which belongs to the United States; the boundary line is continued by the St. Lawrence, as far as Stormont, from which point onwards the British have both banks.

The British portion on the north of the lakes and river forms Upper and Lower Canada (now named Ontario and Quebec), old colonies of France, which were taken from her by the peace of 1763. These two provinces differ in origin, manners, language, and civil laws: the former is British, the latter French. They enjoy great freedom, and make their own laws in conjunction with the British sovereign. The mother country makes immense sacrifices for the defence of her American colonies, more than the half of which is a snow-covered desert, and the remainder a wild forest, with a very sparse population; she receives from them not more than £31,000 in the shape of revenue, while the cost of administration amounts to £43,000, and that of the army to £200,000. It is only in the interests of her trade that she retains such costly possessions, whose tendency is to form a completely independent republic. The first step towards this consummation has been made by the union in one great confederation of the British North American colonies of Quebec, Ontario, New Brunswick and Nova Scotia, which was effected in 1867. The remaining colonies of Prince Edward's island, Newfoundland, and British Columbia will probably join the confederation ere long.

§ IV.—WATERSHED OF HUDSON BAY AND THE ARCTIC OCEAN.

This watershed, which extends from Hudson Strait to Behring Strait, is divided into two parts: 1, Watershed of Hudson Bay; 2, Watershed of the Arctic Ocean.

The Watershed of Hudson Bay is nothing but a vast solitude covered with forests, lakes and rivers, with some few blockhouses for the protection of the fur trade belonging to the Hudson Bay Company.

Among the rivers and lakes that send their waters into Hudson Bay we observe the *Nelson*, which flows out of *Lake Winnipeg*, and ends at YORK FACTORY. Lake Winnipeg receives the *Saskatchewan*, which descends from the Rocky Mountains in two large streams, and unites below FORT CARLTON. The lake is augmented by the *Red River* and the *Winnipeg River*, which are supplied from the tableland where the Mississippi and St. Lawrence rise. The Saskatchewan and Red rivers water an

immense extent of fertile land in the territories of the Hudson Bay Company, whose fur-trading policy has restricted the colonization to the small SELKIRK SETTLEMENT on the Red river. Thus a vast uninhabited region lies between Canada and British Columbia, completely preventing their intercourse, and depriving the latter of its only direct line of communication with the mother country, as well as of the trade which would pass through it, in supplying the interior with the products of China and other countries on the Pacific Ocean.

The watershed of the Arctic Ocean is still more desert and inaccessible than the preceding one; it is wandered over by the *Esquimaux*, and hunters employed by the Hudson Bay Company. The principal river is the *Mackenzie*, which rises in the Rocky Mountains, under the name of *Ounjegah*, receives the waters of several large lakes, notably Lakes *Wollaston*, *Clearwater*, *Athabasca*, and forms *Great Slave Lake*, and ends in the Arctic Ocean. Several log forts have been built on its course.

§ V.—POLAR LANDS.

All the archipelago recently discovered between Baffin Bay and Hudson Bay consists entirely of icebound and uninhabited lands, intersected by channels, straits, reefs of all kinds, as if nature wished to forbid the passage from the Atlantic to the Arctic Ocean. The British have taken formal possession of these islands.

On the east of Baffin Bay is a large country, apparently made up of three great islands: this is *Greenland*, a collection of inaccessible rocks and icebergs, excepting on its west coast, where a scanty vegetation and a few inhabitants are found. The Danes have some settlements on this coast; the principal of these, UPERNAVIK, has from 2 to 3,000 inhabitants. The conversion and civilization of the Greenlanders, a branch of the Esquimaux, redounds greatly to the glory of the Danish nation, who have kept up these colonies, the farthest north in the world, solely from a desire to humanize the poor creatures living in those awful ice-deserts. The Greenlanders are industrious, and support themselves chiefly by fishing: the seal provides them with food, clothing, boats, &c.

On the east of Greenland lies *Iceland*, a large island composed of a mass of rocks always covered with snow, but of a highly volcanic nature. There are on the island upwards of ten active volcanoes; the most celebrated is Mount *Hecla*, which is 5,100 feet high. The climate is very severe; the soil produces only legumes and grass. The Icelanders are industrious, moral, educated, and religious; they are chiefly either shepherds or fishermen; they have literary societies, libraries, &c., and enjoy a regular administration, like the Danes, with whom they have been united since 1397. The capital of Iceland is REIKIAVIK.

Spitzbergen is a group of frozen and desert islands frequented by those engaged in the whale fishery.

§ VI.—COLUMBIAN ARCHIPELAGO.

The Columbian Archipelago (or West Indian Islands) lies in the Atlantic Ocean, between the two American peninsulas, from N. lat. 10° to N. lat. 26° 30′, and from W. long. 59° 40′ to 84° 40′. It is composed of the *Antilles* and the *Bahamas*.

1.—THE ANTILLES.

They form a semicircular chain, running from the Gulf of Maracaibo to the Channel of Yucatan; they are about 360 in number. They are very fertile, but subject to terrific hurricanes; their climate is very hot and not well adapted to Europeans. Almost all of them are of volcanic origin; their mountains are bare and arid, their valleys deep and picturesque. Their chief products are sugar, coffee, tobacco, cocoa, and cotton. Discovered by Columbus, they have been ever since then the centre of the trade of Europe with the New World. They are divided into *Windward Islands*, *Leeward Islands*, and *Great Antilles*. Among the Windward Islands we notice:

1. *Curaçao*, which is 37 miles in length by 12 in breadth: it has a capacious harbour, defended by a fort, and 19,800 inhabitants; it belongs to Holland.

2. *New Sparta*, formerly *Margarita*, capital Asuncion. This island is now a separate state of the Venezuela confederation.

3. *Trinidad*, situated near the mouth of the Orinoco; pop., 81,000; it is very fertile, and important by its position; its

capital is SPANISH TOWN, a fortified town; it belongs to Great Britain.

4. *Tobago*, small and fertile, with a good port and 15,000 inhabitants. It belongs to Great Britain. Tobago and Margarita are the only ones of the West Indian Islands not exposed to hurricanes.

5. *Grenada* has 35,000 inhabitants, and belongs to Great Britain.

6. The *Grenadines*, a small volcanic archipelago.—To Great Britain.

7. *St. Vincent* is 35 miles long by 10 broad; it is often devastated by volcanic eruptions; pop., 21,000.—To Great Britain.

8. *Barbadoes*, low, of difficult access, and very flourishing; it is 17 miles long by 12 broad; its town is BRIDGE TOWN, a busy trading port, defended by several forts: 152,000 inhabitants.—To Great Britain.

9. *Santa Lucia*, volcanic and very unhealthy; it has a good port, and 28,000 inhabitants.—To Great Britain.

10. *Martinique*, of volcanic origin, presenting to the eye high scattered mountains, connected with one another by lower heights, called *mornes;* their highest point is the *Piton des Carbets*, 5,790 feet high. The soil is generally fertile and the climate healthy near the sea-coast; but the high lands are barren and unhealthy; only one-third of the island is under cultivation: its centre is occupied by impenetrable forests. It is abundantly watered by torrent-like brooks; its coast, which is very high, has numerous bays and harbours. It was discovered by Columbus in 1502, and the French settled there in 1635. It is the chief place of the French possessions in the Antilles. Superficial measurement: 244,100 acres; pop., 136,000. It was taken by the British in 1762, 1794 and 1809.

The capital is FORT ROYAL, a very advantageous commercial and military position, on the north coast of an immense bay; it is protected by Fort Bourbon, and has a good harbour, defended by Fort Louis; pop., 12,000. On the south coast of the same bay is the small town of TROIS ILETS, so called from three small islands, which form an excellent shelter during the winter; one of these islands is fortified, and defends the entrance to the bay.

The second town is ST. PIERRE, on the same coast, at the foot of the *mornes* which command it; it is very flourishing, and serves as the head-quarters of all the smuggling trade of the West India Islands with the two continents; pop., 23,000.

The Leeward Islands include:

1. *Dominica*, 27 miles long by 12 broad; pop., 25,000; it is the highest of the West India Islands, and the most rent by volcanic action; the town is ROSEAU, a good fortified port. It belongs to the British, and is an important position for them, lying as it does between Martinique and Guadeloupe.

2. *Marie Galante* is 35 miles in circumference, it is not high, is fringed by a belt of reefs, has no harbours, and no streams, but it is fertile, grows mahogany, and rears an excellent breed of horses. The French settled there in 1648, and still possess it; it was taken by the British in 1691, 1759, 1794, and 1808; pop., 12,000. The chief town is GRAND BOURG, defended by a fort.

3. *Les Saintes*, a group of four small islands, occupied by the French since 1648, and which are dependencies of Guadeloupe; they are dry and sterile, but healthy; their position and the excellence of their anchorage render them of importance in war time to Guadeloupe, the communications of which they protect; between the largest, called *Terre d'en haut*, and the *Islet à Cabris*, there is a good roadstead for the navy; pop., 1,200. Naval battle of 1782, in which the French were beaten.

4. *Guadeloupe* is composed of two islands separated by an arm of the sea, from 100 to 300 feet in width, called the Salt River; the western island bristles with hills, over which rises an active volcano; this is *Guadeloupe;* the eastern island is generally flat, or covered with low hills; this is called *Grande Terre.* These two islands are 200 miles in circumference. In Guadeloupe the hills attain a height of from 4,920 to 5,250 feet; the volcano *soufrière* is 5,110, and forms an oblique and truncated cone about 80,000 yards in circumference: this volcano, along with several others now extinct, has formed the soil of the island. The streams are numerous, and with very high banks; the forests cover one-fifth part of the island. In Grande Terre the soil, rich and fertile, has been formed by alluvia from the ocean; no streams; the coast is marshy, the climate moist and unwholesome; pop., 132,000.

Guadeloupe was discovered by Columbus in 1495; the French settled there in 1635, and still possess it; it was taken by the British in 1759, 1779, 1794, and 1810. It is the birthplace of Dugommier, the burial-place of Richepanse.

The chief town of the colony is BASSE TERRE, on the west coast of Guadeloupe, a commercial town, with only an open roadstead; it is defended on the land side by Fort Richepanse, and on the sea side by batteries; pop., 9,000. The second town is POINTE A PITRE, on the west coast of Grande Terre, at the top of a great bay, into which the Salt River opens; this town is unhealthy, and deficient in fresh water, but the safety and convenience of its harbour give it a great commercial importance. It is defended by two bastioned forts, which contain barracks and military magazines; pop., 12,000.—The garrison of this colony consists of three battalions of marines, a company of artillery, and a company of gendarmerie. The national militia is 4,000 strong.

5. *La Desirade*, a small island 7 miles long by 2½ broad, barren, hilly, but very healthy; it has no harbour, contains 1,200 inhabitants, and is a dependency of Guadeloupe.

6. *Antigua* is small, but very fertile; it (together with Barbuda) contains 37,000 inhabitants, and has at ENGLISH HARBOUR a very important naval arsenal, in one of the finest havens of the Antilles.—To Great Britain.

7. *Montserrat*, *Nevis*, *St. Kitts*, and *Barbuda*, hilly and volcanic islands, belonging to Great Britain.

8. *St. Eustatius* and *Saba*, small volcanic islands, belonging to Holland. The former has a very thriving fortified port.

9. *St. Bartholomew*, a small, dry, and barren island, 20 miles in circumference, belonging to Sweden.

10. *St. Martin* is 15 miles in length by 12 in breadth; it is hilly and healthy, has no harbour, but good anchorage. Since 1648 it has belonged half to the French, half to the Dutch. The French part contains 3,600 inhabitants, and its town is MARIGOT, defended by a small fort. The Dutch half contains 2,770 inhabitants, and its town is PHILIPSBURG.

11. The *Virgin* Islands, groups of islets and barren reefs, belonging partly to Great Britain, partly to Denmark.

12. *St. Thomas*, *St. John*, and *Santa Cruz*, very thriving and

well-cultivated islands, with good ports; the two first were sold by Denmark to the United States in 1867. Santa Cruz, which still belongs to Denmark, has 30,000 inhabitants, and its principal town is CHRISTIANSTEDT, a good port, defended by two fortresses.

The Great Antilles consist of *Puerto Rico*, *Hayti*, *Jamaica*, and *Cuba*.

1. *Puerto Rico* is 100 miles long by 37 broad; it is traversed by a mountain chain from east to west, has a very fertile soil, and contains 380,000 inhabitants. This colony, which belongs to Spain, has increased greatly since the mother-country lost her continental possessions in the New World. The capital is SAN JUAN, a magnificent and thriving port, defended by important works, which make this town one of the strongest fortresses in America; pop., 35,000.

2. *Hayti*, or *San Domingo*, is 400 miles in length, by 150 to 200 in breadth; its superficial measurement is about 293,448 square miles. The *Cibao* mountains divide it through the middle from east to west, and split into two branches, which form the framework of the two peninsulas of the western part. These mountains send off branches in different directions, between which lie deep ravines, which, in their turn, are intersected, in different directions, by contiguous or isolated round hills, which sometimes come down to the coast. The plains border this mountainous framework, or fill up the interval between its base and the seashore; sometimes they are quite horizontal, sometimes in long amphitheatres. The mountains are mostly from 2,620 to 3,280 feet in height; their highest point is the Peak of *Serrania*, which rises to a height of 9,186 feet. They contain many mines; those of Cibao are noted for the destruction of the aborigines, who were forced to labour in them by the Spaniards, in order to obtain gold. Some of them are wooded, others perfectly bare; their appearance is majestic and picturesque, and they give rise to many streams, that run in all directions.

This island presents, on a large scale, the advantages and the defects of the Antilles: a moist climate, a wonderful vegetation, a soil of inexhaustible fertility, a superb and limpid sea, destructive hurricanes. It formerly belonged half to France, half

to Spain, and now forms two independent republics, Hayti and San Domingo, from which all but coloured persons are excluded; the former is French in manners and language, the latter Spanish; but the whole island, so flourishing in the eighteenth century, is now almost without manufactures, trade, or agriculture. In 1861 San Domingo was formally taken possession of by Spain; but, in consequence of a revolt of the inhabitants, the Spaniards again formally renounced the possession of the island in 1865.

Towns on the South Coast: 1. SAN DOMINGO, founded by Columbus, the oldest European town in the New World, capital of the republic of the same name, now fallen into decay in spite of the excellence of its harbour, at the mouth of the Ozama.—2. CAYES, formerly a thriving port; destroyed by a hurricane in 1831.

Towns on the West Coast, or Gonaives Bay: 1. GONAIVES, a small well-fortified town, with a fine harbour.—2. LEOGANE, a small port, celebrated in the war of independence.—3. PORT-AU-PRINCE, at the head of the bay, capital of the Republic of Hayti, with a very fine harbour and a good roadstead; pop., 15,000. —4. ST. NICHOLAS MOLE, at the entrance of the strait separating Hayti from Cuba, a fortress destroyed by Christophe, and which was once one of the strongest fortresses in America; it was of great importance in a military point of view, on account of its position and its harbour.

Towns on the North Coast: CAPE HAYTI, the ancient capital of Hayti, and the richest town in the island before the revolution; its fine harbour is abandoned, and its fortifications are falling to ruins. At 7 miles' distance is the *citadel Henri*, built by Christophe, on the top of a hill.

3. *Jamaica*, hilly, fertile and well cultivated, 124 miles long, by 50 broad. It contains 441,000 inhabitants, and belongs to the British, who through it command the Caribbean Sea. The capital is KINGSTOWN, a busy commercial town, on an immense bay, defended by two forts; pop., 30,000.

2. *Cuba*, the largest and finest of the West Indian islands, 620 miles long, by 37 to 50 broad. From east to west there runs through it a chain of mountains, from 7,870 to 9,180 feet in height, whence rise on either side 150 streams or brooks. This island, which belongs to the Spaniards, is at present the richest

of the European colonies; its population amounts to 1,449,000, of whom 625,000 are slaves; the number of ships entering or sailing from its ports is about 3,500; its revenue is about 1,800,000*l.*, and it has no debt. The prosperity of Cuba is of quite modern date: it is owing to wise administration, to abolishing the trammels that interfered with trade, to the white population who fled thither from San Domingo and from the continent of America, to escape the horrors of the civil wars, &c. Humboldt says: "Its political and commercial importance depends not only on the extent of its surface, the admirable fertility of its soil, its military establishments, and the nature of its population, three-fifths of whom are freemen; but still more on the advantages of its geographical position; its long, narrow shape makes it at once near both to Hayti and Jamaica, to the most southern part of the United States, and to the most eastern state of the Mexican confederation."

The capital is HAVANA, a very busy trading town, very populous, one of the strongest fortresses, and one of the finest ports in the world. It lies on the north coast, opposite Florida, and in a very picturesque situation. Forts Moro and Punta defend the entrance to the harbour, which is narrow and difficult; the citadel, called *Cabaña*, can hold a garrison of 2,000 men; the other works are the forts *Ares* and *Del Principe*, and the battery of *Santa Clara*. Pop., 140,000.

The other ports are: SANTIAGO, on the south coast, defended by Fort Moro; pop., 20,000. FERNANDINA DE JAGUA, defended by a very good fortress; lastly, MATANZAS and SAN FERNANDO DE LAS NUEVITAS. In the interior we find: SANTA MARIA DE PUERTO PRINCIPE, with 50,000 inhabitants.

2.—THE BAHAMA ISLANDS.

They lie north of the Great Antilles, from Hayti to Florida, for a length of 870 miles. There are fourteen groups of large islands, and more than five groups of small islands, besides the islets, bays, sandbanks and reefs, with which the sea is studded, and whereby the navigation is rendered very perilous. They are very low, fringed with reefs, and not very fertile; but they enjoy a very healthy climate. The principal one is *Providence*, which contains the small town of NASSAU, chief town of the

government of the Bahamas: the most famous is *Guanahani* or *San Salvador*, the first American land discovered by Columbus. They belong to Great Britain.

The last portion of the world that remains to be mentioned is the *Bermudas*, a small archipelago lying in the Atlantic Ocean, 124 miles from the east coast of the United States, belonging to Great Britain. It is a very important military and commercial station. Its chief town is ST. GEORGE.

INDEX.

Abbreviations :—*b.*, bay.—*c.*, cape.—*cl.*, canal.—*dep.*, department.—*duc.*, duchy.—*emp.*, empire.—*f.*, fort, fortress.—*g.*, gulf.—*gl.*, glacier.—*i.*, island.—*is.*, islands, isles.—*ist.*, isthmus.—*kgd.*, kingdom.—*l.*, lake.—*m.*, mountain, mount.—*ms.*, mountains.—*p.*, pass.—*peop.*, people.—*pln.*, plain.—*plt.*, plateau.—*pn.*, peninsula.—*pr.*, province.—*princ.*, principality.—*r.*, river.—*rep.*, republic.—*rsd.*, roadstead.—*s.*, sea.—*st.*, strait.—*sta.*, state.—*t.*, town.—*tr.*, tribe.—*v.*, valley.

A.

Aa, *r.*, 234, 270, 428
Aach, *r.*, 264
Aachen, *t.*, 226
Aalburg, *t.*, 289
Aarau, *t.*, 208
Aarberg, *t.*, 208
Aarburg, *t.*, 208
Aare, *r.*, 208
Abach, *p.*, 310
Abases, *peop.*, 501
Abbeville, *t.*, 169, 240
Abens, *r.*, 310
Abensberg, *t.*, 310
Aberdeen, *t.*, 451
Abervrach, *b.*, 152
Ablach, *r.*, 308
Abo, *t.*, 431
Abomey, *t.*, 552
Aboukir, *l.*, 523
Aboukir, *f.*, 524
Abrantes, *t.*, 77
Abries, *p.*, 177
Abruzzi, *pr.*, 382
Abyla, *m.*, 46
Abyssinia, *kgd.*, 525
Abyssinia, *ms.*, 519
Acapulco, *t.*, 591
Acarnania, *pr.*, 891
Accra, *t.*, 553
Acerenza, *t.*, 380
Acha, *r.*, 309
Achaia, *pr.*, 392, 405
Ache, *r.*, 313
Achin, *kgd.* and *t.*, 507
Aconcagua, *m.*, 572
Acoul, *plt.*, 530
Acqui, *t.*, 355
Acre, *t.*, 496
Acrocerannian, *ms.*, 398
Actium, *t.*, 399
Adaja, *r.*, 82
Adana, *pr.*, 498
Adana, *t.*, 499
Adda, *r.*, 361
Adda, *t.*, 553
Adel, *coast*, 558
Adelaide, *t.*, 512
Adelsberg, *p.*, 260, 301
Aden, *t.*, 492
Adige, *r.*, 365
Adour, *r.*, 121
Adria, *t.*, 353
Adrianople, *t.*, 402
Adriatic, *s.*, 47
Æmilian road, 345
Æolia, *pr.*, 499
Ætolia, *pr.*, 391
Africa, 37, 513
Africa, point of, *c.*, 46
Aftan, *r.*, 492
Agaades, *is.*, 388
Agana, *t.*, 510
Agde, *l.*, 120
Agde, *t.*, 128, 182
Agen, *t.*, 128
Aggere, 350
Aghouat, El, *t.*, 545
Aghridagh, *m.*, 476
Agincourt, *pln.*, 170
Agnadel, *t.*, 362
Agnello, *p.*, 178
Agogna, *r.*, 359
Agosta, *t.*, 387
Agout, *r.*, 130
Agra, *t.*, 482
Agram, *t.*, 326
Agri, *r.*, 380
Agueda, *r.*, 82
Ahe, *r.*, 270
Ahmedabad, *t.*, 485
Ahmednaggur, *t.*, 483
Aidin, *pr.*, 498
Aidin Guzelhissar, *t.*, 499
Aigues Mortes, *t.*, 180
Aiguille, *f.*, 134
Aiguillon, *creek*, 136
Aiguillon, *t.*, 130
Ain, *dep.*, 195
Ain, *r.*, 187
Ainhoué, *t.*, 120
Ain Mahdi, *t.*, 545
Ain Tmouchen, *f.*, 543
Ain Turk, *f.*, 541
Aire, *r.*, 166
Aire, *t.*, 121, 230, 239
Aires, *p.*, 93
Airolé, *t.*, 359
Aisne, *r.*, 166
Aisnes, *dep.*, 170
Aix, *i.*, 134
Aix, *t.*, 194
Aix-la-Chapelle, *t.*, 226
Ajaccio, *t.*, 385
Ajam country, 558
Ajmeer, *t.*, 487
Akaba, *t.*, 493
Akerman, *t.*, 415
Akhaltsik, *t.*, 502
Akhti, *f.*, 423
Akka, *t.*, 496
Ak Tagh, *m.*, 503
Alabama, *r.*, 601

Ala Dagh, *m.*, 490, 493
Alagon, *r.*, 78
Alagon, *t.*, 97
Aland, *i.*, 431
Ala Shan, *m.*, 466
Alaska, *sta.*, 594
Alathama, *r.*, 602
Alatau, *m.*, 502
Alba, *t.*, 82
Albania, *pr.*, 400
Albania, gate of, *p.*, 494
Albanians, *peop.*, 527, 533
Albany, *t.*, 606
Albaracin, *m.*, 74
Albenga, *t.*, 195
Alberche, *r.*, 78
Alberes, *m.*, 91
Alberoni, *f.*, 370
Albert Nyanza, *l.*, 520, 558
Albreda, *t.*, 550
Albuera, *r.*, 72
Albufera, *l.*, 95
Albula, *p.*, 260
Albula, *r.*, 264
Albuquerque, *f.*, 73
Alby, *t.*, 130
Alcacer do Sal, *t.*, 78
Alcala, *t.*, 77
Alcandra, *r.*, 99
Alcaniz, *t.*, 97
Alcantara, *r.*, 78
Alcantara, *t.*, 76
Alcaraz, *m.*, 66
Alcaraz, *t.*, 69
Alcoba, *m.*, 79
Aldan, *m.*, 463
Aldan, *r.*, 465
Aldenhoven, *t.*, 226
Alderney, *i.*, 152
Aldudes, *p.*, 92
Alemtejo, *pr.*, 73, 78
Alençon, *t.*, 116
Alenquer, *r.*, 78
Aleppo, *t.*, 498
Aleria, Torre d', *t.*, 385
Alessio, *t.*, 398
Alexandria, *t.*, 354
Aleutian Is., 565, 594
Alexander, *f.*, 419
Alexandria, *t.*, 523, 604
Alfaro, *t.*, 98
Algarves, *pr.*, 73
Algau, *ms.*, 260
Algeciras, *t.*, 64
Algeria, *pr.*, 532
Alghero, *t.*, 386
Alghinskoi, *m.*, 463
Algiers, *g.*, 536
Algiers, *t.*, 537
Alhama, *ms.*, 63
Alhuccemas, *f.*, 545
Alicante, *t.*, 95
Alise, *t.*, 160
Alkmaar, *t.*, 271, 272
Allahabad, *t.*, 480
Alle, *r.*, 427
Alleghanies, *ms.*, 598
Alleghany, *r.*, 600
Allemanni, *peop.*, 107, 218, 249
Allen, *l.*, 454
Allenstein, *t.*, 427
Aller, *r.*, 275
Allier, *dep.*, 147
Allier, *r.*, 144
Alluvial strata, 3
Allyghur, *t.*, 482
Alma, *r.*, 418
Alma Dagh, *m.*, 476
Almaden Mines, 72
Almaguer, *plt.*, 580
Almanza, *t.*, 95
Almaraz, *t.*, 76
Almeida, *t.*, 82
Almeria, *t.*, 65
Almonacid, *r.*, 97
Almonacid, *t.*, 76
Alouettes, *m.*, 133
Alps, Eastern, *ms.*, 299
Alps, Frontier, 196
Alps, Lower, *ms.*, 179
Alps, Lower, *dep.*, 196
Alps, Upper, *dep.*, 196
Alps, Western, *ms.*, 174
Alpon, *r.*, 367
Alpujarras, *m.*, 64
Alsace, *pr.*, 115
Altai, *ms.*, 456, 463
Altbunzlau, *t*, 280
Altenkirchen, *t.*, 268
Altenmark, *t.*, 321
Altkirch, *t.*, 215
Altmühl, *r.*, 307
Altona, *t.*, 283
Altorf, *t.*, 209
Aluta, *r.*, 331
Alzette, *r.*, 218
Amadieh, *t.*, 491
Amak, *i.*, 289
Amakosa, *peop.*, 556
Amalfi, *t.*, 380
Amand, St., *t.*, 144, 230
Amans, St., *t.*, 130
Amanus, *m.*, 493
Amaponda, *peop.*, 557
Amarante, *t.*, 83
Amarapura, *t.*, 479
Amasich, *t.*, 500
Amazonas, *r.*, 581
Amazula, *peop.*, 557
Amber, *r.*, 311
Amberg, *t.*, 308
Ambleve, *r.*, 225
Amboina, *i.*, 569
Amboise, *t.*, 143
America, 563
America, Central, 594
America, North, 38, 590
America, South, 38, 571
Amersfoort, *t.*, 272
Amhara, *kgd.*, 526
Amherst, *t.*, 479
Amiens, *t.*, 169, 240
Amirantes, *is.*, 559
Ammi Mouça, *f.*, 542
Amour, *r.*, 469
Ampezzo, *p.*, 348
Amposta, *t.*, 97
Ampurdan, *pr.*, 100
Ampurias, *t.*, 100
Amstel, *r.*, 272
Amsterdam, *t.*, 272
Amsterdam, *f.*, 584
Amu Daria, *r.*, 503
Anagni, *t.*, 379
Anah, *t.*, 490
Anahuac, *plt.*, 596
Anaklia, *f.*, 501
Anatolia, *pr.*, 493, 498
Anatolico, *t.*, 400
Ancenis, *t.*, 143
Ancona, *t.*, 382
Andalusia, *pr.*, 62
Andaman, *is.*, 478
Andaye, *t.*, 89
Andelys, *t.*, 160
Andes, *ms.*, 566
Andorra, *r.*, 98
Andrea, San, *f.*, 370
Andrew, St., *f.*, 220, 538
Andros, *i.*, 407
Andujar, *t.*, 68

Anet, *t.*, 162
Anezo, *r.*, 88
Angara, *r.*, 464
Angers, *t.*, 146
Anglesea, *i.*, 449
Angola, *kgd.*, 554
Angora, *t.*, 500
Angoulême, *t.*, 135.
Angoy country, 554
Angra, *t.*, 102
Anhalt, *duc.*, 288
Anhalt Bernburg, *duc.*, 288
Anhalt Dessau Cöthen, *duc.*, 288
Anjou, *pr.*, 113
Ankober, *t.*, 526
Annam, *emp.*, 474
Annecy, *t.*, 191
Annesley, *b.*, 525
Anspach, *t.*, 267
Antakieh, *t.*, 496
Antalo, *t.*, 525
Antarctic Ocean, 36, 37
Antavares, *peop.*, 560
Antequerra, *t.*, 65
Antibes, *t.*, 182
Anticosti, *i.*, 611
Anticyra, *t.*, 400
Antigua, *i.*, 617
Anti-Lebanon, *ms.*, 476
Antilles, *is.*, 564, 614
Antilles, Great, *is.*, 618
Antioche, *st.*, 134
Antioco, St., *f.*, 386
Antioquin, *t.*, 588
Antisana, *m.*, 580, 590
Antivari, *t.*, 397
Antony, St., *f.*, 77
Antonio de Recife, San, *t.*, 675
Antrain, *t.*, 155
Antwerp, *pr.*, 236
Antwerp, *t.*, 228
Aosta, *t.*, 358
Apennines, *ms.*, 344
Appalachicola, *r.*, 601
Appenzell, *t.*, 207
Aprica, *p.*, 347
Apure, *r.*, 585
Apurimac, *r.*, 582
Aquila, *t.*, 381
Aquileia, *t.*, 371
Aquitaine, *pr.*, 106
Aquitani, *peop.*, 106
Arabat, *f.*, 420
Arabat, *pn.*, 418
Arabgir, *t.*, 490
Arabia, *pn.*, 456, 491
Arabian Gulf, 513
Arabian Sea, 37, 456
Arabs, *peop.*, 527, 533
Arad, *f.*, 325
Aragon, *pr.*, 101
Aragon, *r.*, 98
Araguay, *r.*, 581
Aral, *plt.*, 502
Aral, *s.*, 502
Aralar, *m.*, 87
Aranda, *t.*, 81
Aranjuez, *t.*, 76
Arapiles, *m.*, 82
Ararat, *m.*, 476
Aras, *r.*, 502
Araucanos, *peop.*, 589
Aravulli, *m.*, 477
Arbel, *t.*, 491
Arber, *m.*, 276
Arc, *r.*, 192, 194
Arcachon, *basin*, 126
Arcadia, *pr.*, 392, 406
Arcadia, *t.*, 405
Archangel, *b.*, 432
Archangel *t.*, 432
Archangel, New, *t.*, 594
Archenau, *r.*, 146
Archipelago, *s.*, 37, 47, 456
Arcis, *t.*, 162
Arcole, *t.*, 367
Arcone, *r.*, 377
Arctic Archipelago, 564
Arctic Ocean, 36, 44, 455
Ardeche, *dep.*, 195
Ardeche, *r.*, 190
Ardennes, *dep.*, 170, 236
Ardennes, Eastern, *ms.*, 204
Ardennes, Western, *ms.*, 150, 204
Ardon, *r.*, 167
Arequipa, *t.*, 589
Ares, *f.*, 620
Arezzo, *t.*, 376
Arga, *r.*, 98
Argens, *r.*, 194
Argentau, *t.*, 156
Argentière, *p.*, 178
Argentine Rep., 578
Argolis, *pr.*, 392, 405
Argonne, Eastern, *ms.*, 204.
Argonne, Western, *forest*, 149
Argonne, Western, *ms.*, 204
Argos, *t.*, 405
Argun, *r.*, 469
Argyro Castro, *t.*, 398
Ariége, *dep.*, 131
Ariége, *r.*, 129
Arish, El, *t.*, 496, 546
Arizona, *sta*, 593
Arjish, *r.*, 331
Arkansas, *f.* and *r.*, 600
Arkiskhan, *t.*, 502
Arlanzon, *r.*, 83
Arles, *t.*, 186
Armançon, *r.*, 160
Armas, Las, *p.*, 97
Armentieres, *t.*, 230
Armes, *forest*, 130
Armorican, *pn.*, 106
Armorique, *f.*, 141
Armstrong, *f.*, 599
Army, 35
Arnaouts, *peop.*, 399
Arnay le Duc, *t.*, 146
Arnheim, *t.*, 220, 221
Arno, *r.*, 376
Arnsberg, *t.*, 269
Aroche, *m.*, 67
Aroscia, *r.*, 195
Arouch, El, *t.*, 539
Arpino, *t.*, 379
Arras, *t.*, 230, 239
Arraz, *p.*, 92
Arreau, *t.*, 129
Arrée, *m.*, 139
Arroux, *r.*, 146
Arsine, *m.*, 177
Arta, *g.*, 397
Arta, *r.* and *t.*, 399
Artillery, *b.*, 419
Artois, *f.*, 154
Artois, *ms.*, 151
Artuby, *r.*, 194
Arva, *r.* and *t.*, 320
Arve, *r.*, 190
Arzeu, *b.*, 236
Arzeu, *t.*, 538
Arzobispo, Puente del, *t.*, 76

Ascalon, *t.*, 496
Ascension, *i.*, 513, 562
Aschaffenburg, *t.*, 267
Ascoli, *t.*, 381
Ashantees, *kgd.*, 552
Ashton, *t.*, 450
Asi, *r.*, 496
Asia, 37, 455
Asia, *f.*, 400
Asia Minor, 456, 493, 498
Aspe, *r.*, 122
Aspern, *t.*, 318
Aspres, *m.*, 116
Aspromonte, *m.*, 373
Aspropotamo, *r.*, 400
Assel, *i.*, 229
Assinie, *r.*, 552, 553
Assinie, *t.*, 553
Assisi, *t.*, 378
Assouan, *t.*, 521
Assuay, *p.*, 580
Assur, *t.*, 521
Assurghur, *f.*, 485
Astarabad, *t.*, 502
Asti, *t.*, 354
Astorga, *t.*, 83
Astoria, *f.*, 593
Astrakan, *t.*, 424
Asturias, *pr.*, 89
Asuncion, *t.*, 576, 614
Atacama, *desert*, 589
Atacama, *l.*, 580
Atbara, *r.*, 524
Aterno, *r.*, 381
Atfieh, *t.*, 522
Ath, *t.*, 232
Athabasca, *l.*, 613
Athens, *b.*, 402
Athens, *t.*, 404
Athlone, *t.*, 454
Athos, *m.*, 402
Atlantic Ocean, 36, 573
Atlas, *m.*, 528
Atlas, Great, *m.*, 530
Atlas, Little, *m.*, 528.
Atlas, Middle, *m.*, 529
Attica, *pr.*, 392, 404
Attock, *t.*, 486
Aube, *d'p.*, 170
Aube, *r.*, 162
Aubervilliers, *f.*, 159
Aubin du Cormier, St., *t.*, 155
Aucaes, *peop.*, 575
Auch, *t.*, 129
Aude, *dep.*, 120, 196
Aude, *r.*, 120
Audierne, *b.*, 140
Auerstadt, *t.*, 285
Augostum, *t.*, 584
Augsburg, *t.*, 309
Augusta, *t.*, 602
Augustaborg, *t.*, 553
Augustine, St., *t.*, 602
Augustus, *f.*, 452
Aujelah, *oasis*, 527
Aulne, *r.*, 147
Aumale, *t.*, 169, 540
Aunis, *pr.*, 112
Aupa, *r.*, 278
Auray, *r.* and *t.*, 147
Aure, *v.*, 129
Aures, *m.*, 530
Aurigny, *i.*, 152
Aurillac, *t.*, 131
Auron, *r.*, 145
Aurungabad, *t.*, 483
Ausa, *r.*, 371
Aussa, *l.*, 526
Austerlitz, *t.*, 320
Austin, *t.*, 597
Australasia, 37, 505
Australia, *i.*, 512
Austrasia, *pr.*, 106, 249
Austria, *emp.*, 249, 322
Austrian States, 258
Austria, statistics of, 334
Authie, *r.*, 170
Autun, *t.*, 146
Auvergne, *ms.*, 125
Auvergne, *pr.*, 112
Auxerre, *t.*, 160
Auxonne, *t.*, 180
Auzen, *t.*, 540
Ava, *t.*, 479
Avatska, *m.*, 469
Aveiro, *t.*, 81
Avesnes, *t.*, 225, 241
Aveyron, *dep.*, 131
Aveyron, *r.*, 130
Avignon, *t.*, 186, 193
Avila, *m.*, 74
Avila, *t.*, 82
Avisio, *r.*, 365
Avlona, *g*, 397
Avlona, *t.*, 398
Avon, *r.*, 449
Avranches, *t.*, 156
Avre, *r.*, 162
Awaj, *r.*, 498
Ax, *t.*, 129
Axum, *t.*, 525
Ayacucho, *pln.*, 582
Ayamonte, *t.*, 72
Ayasalowk, *t.*, 499
Aygues, *r.*, 192
Ayr, *r.*, 448
Azay, *t.*, 145
Azergues, *r.*, 188
Azof, *s.*, 48
Azof, *t.*, 421
Azores, *is.*, 102

B.

Baba, *c.*, 456
Babazoun, *f.*, 537
Bab el Mandeb, *c.*, 456
Bab el Mandeb, *st.*, 513
Babor, *m.*, 529
Babylon, *t.*, 490
Bacchiglione, *r.*, 368
Baconier Wald, *m.*, 300
Badabona, *t.*, 95
Badajoz, *t.*, 71
Baden, *gr. duc.*, 265, 269
Baden, *t.*, 210
Bærenkopf, *m.*, 171
Bætica, *pr.*, 61
Baffin, *b.*, 37, 264
Baghdad, *t.*, 491
Baglui, *r.*, 331
Bagnères, *t.*, 121
Bagnères de Luchon, *t.*, 129
Bahamas, *is.*, 564, 620
Bahia, *t.*, 574
Bahrein, *i.*, 492
Bahr el Abiad, *r.*, 520
Bahr el Azrek, *r.*, 521, 524
Bahr el Gazal, *r.*, 520
Bahr Lut, *l.*, 497
Bahus, *t.*, 437
Baia, *t.*, 379
Baikal, *l.*, 464
Bains, Les, *f.*, 117
Baireuth, *t.*, 267
Baise, *r.*, 129
Bakel, *t.*, 549
Baktchi Serai, *t.*, 418
Balaguer, *t.*, 98

Balaguier, *f.*, 181
Balaklava, *b.* and *t.*, 420
Balaton, *l.*, 323
Baldo, *m.*, 347
Balearic Islands, 101
Balearic Sea, 47
Balfrush, *t.*, 502
Balirn, *r.*, 98
Balk, *t.*, 503
Balkan, *ms.*, 49, 302
Balkash, *l.*, 502
Ballon d'Alsace, *m.*, 171, 203
Ballon de Guebwiller, *m.*, 203
Ballons, 13
Bally, *i.*, 508
Balti country, 486
Baltimore, *t.*, 605
Baltic Sea, 37, 45
Bambara, *sta.*, 551
Bamberg, *t.*, 267
Bambook country, 549
Banat, *pr.*, 328
Banca, *i.*, 507
Banda, *i.*, 509
Bandia, *r.*, 136
Bangassi, *t.*, 550
Bangkok, *t.*, 472
Baños, *p.*, 74
Bantry, *b.* and *t.*, 454
Banyaluka, *t.*, 326
Banyuls, *p.*, 93
Banza Congo, *t.*, 554
Bar le Duc, *t.*, 164
Bar sur Aube, *t.*, 162
Bar sur Seine, *t.*, 156
Barabra country, 521
Barbadoes, *i.*, 615
Barbarous people, 32
Barbastro, *t.*, 99
Barbuda, *i.*, 617
Barca country, 527
Barce, *r.*, 156
Barcelona, *t.*, 95, 101
Barceloncttc, *t.*, 194
Bard, *t.*, 358
Bareges, *t.*, 122
Barfleur, *c.*, 152
Barhanpoor, *t.*, 485
Bari, *t.*, 381
Barletta, *t.*, 381
Barmaul, *t.*, 464
Baroda, *t.*, 485
Barra, *f.*, 581
Barraut, *f.*, 191
Barro do Rio Negro, *t.*, 583
Barrow, *st.*, 564
Bartholomew, St., *m.*, 117
Bartholomew, St., *i.*, 617
Baruda, *r.*, 498
Bascara, *t.*, 100
Base of hill, 12
Basel, *t.*, 207
Basento, *r.*, 380
Basilicata, *pr.*, 382
Basin, 8
Bassam, *t.*, 553
Bassano, *t.*, 368
Bassée, *t.*, 239
Basse Terre, *t.*, 617
Bassignano, *t.*, 351
Bassure de Baas, *sand-bank*, 170
Bastan, *r.*, 122
Bastia, *t.*, 385
Basutu, *peop.*, 557
Batas, *peop.*, 507
Batavia, *t.*, 507
Bath, *f.*, 229
Bath, *t.*, 449
Bathurst, *t.*, 550
Batna, *t.*, 540
Baton Rouge, *t.*, 599
Batz, *i.*, 152
Bauges, *m.*, 176
Bautzen, *t.*, 287
Bavaria, *kgd.*, 265, 270, 314
Bavaria, Rhenish, *pr.*, 219
Bavarians, *peop.*, 249
Bay, 6
Bayaguas, *tr.*, 583
Bayas, *t.*, 498
Baylen, *t.*, 69
Bayonne, *t.*, 121
Bayunza, *r.*, 122
Bazskid, *m.*, 295
Beachy Head, 445
Beacons, 13
Bear, *i.*, 454
Bearn, *pr.*, 112
Beas, *r.*, 487
Beat, St., *t.*, 127
Beaucaire, *t.*, 186
Beaufort, *t.*, 603
Beaugency, *t.*, 142
Beaujolais, *ms.*, 138
Beauvais, *t.*, 166
Bec d'Ambez, *pn.*, 128
Bechuanas, *peop.*, 557
Bed of river, 30
Bedford, *t.*, 448
Beejapoor, *t.*, 483
Beerhampoor, *t.*, 481
Befort, *t.*, 189
Befort, *p*, 171
Behneseh, *t.*, 522
Behring, *pn.*, 565
Behring, *s.*, 36
Behring, *st.*, 37
Beima, *r.*, 483
Beira, *pr.*, 78, 85
Beirout, *t.*, 496
Belatte, *p.*, 92
Belbeis, *t.*, 523
Belbek, *r.*, 418
Belchite, *t.*, 97
Belem, *t.*, 581
Belfast, *t.*, 453
Belfort, *t.*, 189
Belgæ, *peop.*, 106
Belgica, *f.*, 509
Belgium, *kgd.*, 236
Belgium, statistics of, 245
Belgrade, *t.*, 324
Belid el Jerid country, 547
Belikh, *r.*, 490
Belistre, *p.*, 93
Belize, *r.* and *t.*, 595
Belleeroix, *f.*, 217
Belle Défense, *t.*, 187
Bellegarde, *t.*, 118
Belle Ile, *i.*, 141
Belleville, *plt.*, 158
Bellezma, *m.*, 530
Bellinzona, *t.*, 359
Belluno, *t.*, 370
Belt, Great, *st.*, 45
Belt, Little, *st.*, 45
Belver, *t.*, 98
Ben Aidel country, 541
Benares, *t.*, 480
Beneoulen, *t.*, 507
Bender, *t.*, 415
Benevento, *t.*, 379
Bengal, *b.*, 37, 456
Benghazi, *t.*, 527
Benguela, *kgd.*, 554

Benguela, *r.* and *t.*, 555
Bengut, *c.*, 536
Beni, *r.*, 583
Beni Amer, *peop.*, 529
Beni Ammer country, 543
Beni Hassan, *peop.*, 547
Beni Mennecr, *peop.*, 528
Benin, *kgd.*, 552
Benisouef, *t.*, 522
Ben Lomond, *m.*, 451
Ben Nevis, *m.*, 443
Berat, *t.*, 398
Beraun, *r.* and *t.*, 279
Berbera, *t.*, 526
Berbers, *peop.*, 533
Berbir, *f.*,*f*326
Berenice, *t.*, 525
Berezina, *r.*, 417
Bergamo, *t.*, 362
Bergara, *t.*, 88
Bergen, *t.*, 267, 438
Bergen op Zoom, *t.*, 229
Bergerac, *t.*, 130
Bergues, *t.*, 234, 239
Berlin, *t.*, 287
Bermuda, *is.*, 621
Bern, *t.*, 208
Bernard, Great St., *p.*, 176
Bernard, Little St., *p.*, 177
Bernardino, San, *p.*, 201
Bernburg, *t.*, 284
Bernese Oberland, *ms.*, 173. 292
Bernina, *m.*, 201
Bernina, *p.*, 299
Berra, *t.*, 89
Berre, *b.* and *t.*, 180
Berry, *cl.*, 144
Berry, *pr.*, 113
Berthaume, *f.*, 141
Bertrand, St., *t.*, 127
Berwick, *t.*, 448
Bery au Bac, *t.*, 166
Besançon, *t.*, 189
Bessarabia, *pr.*, 333, 415
Betaninenas, *peop.*, 560
Bethany, *t.*, 498
Bethlehem, *t.*, 498
Bethune, *t.*, 231
Betimsaras, *peop.*, 560
Betuwe, *t.*, 221
Beveland, North and South, *is.*, 229
Beyerland, *i.*, 223
Beziers, *t.*, 128
Bhot, *pr.*, 482
Bhotan, *pr.*, 482
Biafans, *peop.*, 550
Biajoos, *peop.*, 508
Bianco, *cl.*, 352
Bibans, *ms.*, 529
Biberach, *t.*, 308
Bicetre, *f.*, 159
Bicocca, *t.*, 360
Bidassoa, *r.*, 88
Bidouze, *r.*, 122
Bielo, *l.*, 425
Bielsa, *t.*, 99
Bienne, *l.*, 209
Bienne, *t.*, 187
Bies Bosch, *i.*, 223
Biferno, *r.*, 381
Bigorre, *ms.*, 117, 123
Bilbacz, *t.*, 326
Bilbao, *r.* and *t.*, 88
Billilis, *t.*, 97
Bingen, *t.*, 214
Biobio, *r.*, 589
Birintu, *t.*, 89
Birkadem, *t.*, 537
Birket el Korn, *l.*, 522
Birmingham, *t.*, 448
Birs, *r.*, 211
Bisagno, *r.*, 374
Biscay, *b.*, 37, 46
Biscay, *pr.*, 89
Biscayan Pyrenees, *ms.*, 87
Bischofszell, *t.*, 207
Biskra, *m.*, 532
Biskra, *t.*, 545
Bissayos, *peop.*, 509
Bithe, *t.*, 219, 243, 244
Bithynia, *pr.*, 498
Bitolia, *t.*, 403
Black Forest Ms., 261
Black Mountains, 124, 139
Black Sea, 37, 48, 456
Blaize, *r.*, 162
Blanc, *m.*, 175
Blanche, *r.*, 194
Blanco, *c.*, 513, 565
Blanquetaque, *ford*, 159
Blas, San, *t.*, 592
Blavet, *b.*, 140
Blavet, *r.*, 147
Blaye, *f.*, 129
Bleneau, *t.*, 161
Blenheim, *t.*, 305
Bleone, *r.*, 194
Blidah, *t.*, 541
Blise, *r.*, 219
Blois, *t.*, 142
Blücher, *f.*, 215
Blue Sea, 455
Blue Ridge Ms., 598
Bobbio, *t.*, 356
Bober, *r.*, 293
Bobruisk, *t.*, 417
Bocage country, 137
Bocchetta, *p.*, 345
Bodenitza, *t.*, 404
Bodensee, *l.*, 206
Bodrog, *r.*, 324
Bœhmerwald, *ms.*, 276
Bœotia, *pr.*, 391, 404
Boers, *peop.*, 557
Boghar, *t.*, 542
Bogota, *r.*, 588
Bogota, *t.*, 586, 588
Bohalieh, *f.*, 401
Bois le Duc, *t.*, 226
Bojador, *c.*, 513
Bokhara, *t.*, 503
Bolivia, *rep.*, 585
Bolivia, *t.*, 584
Bologna, *t.*, 357
Bolor Ms., 457, 475
Bolsena, *l.*, 377
Bolton, *t.*, 450
Bomarsund, *st.*, 431
Bomba, *kdg.*, 554
Bombay, *t.*, 485
Bombetok, *t.*, 560
Bommel, *i.* and *t.*, 220
Bon, *c.*, 514
Bona, *b.*, 535
Bona, *t.*, 536
Bondu, *sta.*, 550
Bonifaccio, *t.*, 385
Bonn, *t.*, 215
Borba, *t.*, 583
Borbon, *f.*, 576
Bordeaux, *t.*, 128
Bordj el Ariridj, *f.*, 541
Bordj el Hamza, *t.*, 540
Bore, 20
Borghetto, *t.*, 363
Borgo Forte, *t.*, 351
Borgu, *pr.*, 551

Borisov, *t.*, 417
Bormida, *r.*, 355
Bormio, *m.*, 346
Bormio, *t.*, 361
Borneo, *i.*, 508
Bornholm, *i.*, 290
Borodino, *t.*, 424
Borroros, *tr.*, 583
Bosjesmans, *peop.*, 535
Bosna, *r.*, 326
Bosna Serai, *t.*, 326
Bosnia, *princ.*, 329
Boston, *t.*, 448, 607
Bot, *pr.*, 482
Bothnia, *g.*, 46
Botzen, *t.*, 365
Bouc, *t.*, 180
Bouçada, *t.*, 544
Bouchain, *t.*, 227, 239, 240
Bouchemaine, *t.*, 146
Bouches du Rhone, *dep.*, 196
Bouffarik, *t.*, 541
Bougie, *t.*, 536
Bouillon, *t.*, 224
Bouin, *i.*, 136
Boulak, *t.*, 522
Boulogne, *r.*, 146
Boulogne, *t.*, 155, 240
Boulou, Le, *t.*, 117
Bourbon, *f.*, 615
Bourbon, *i.*, 513, 561
Bourbonais, *pr.*, 113
Bourbourg, *cl.*, 235
Bourbre, *r.*, 191
Bourg, *t.*, 130, 190
Bourges, *t.*, 145
Bourget, *r.*, 191
Bourgneuf, *b.*, 140
Bourlos, *c.*, 514
Bourlos, *l.*, 524
Bou Sellam, *r.*, 540
Bou Taleb, *m.*, 530
Boutières, *ms.*, 171
Boutonne, *r.*, 136
Bouvines, *t.*, 231
Bouzaria, *m.*, 537
Boyana, *r.*, 397
Boyard, *f.*, 133
Boyardville, *f.*, 133
Boyne, *r.*, 453
Bozok, *pr.*, 498
Brabant, *pr.*, 236, 272
Bradano, *r.*, 380
Bradford, *t.*, 448
Braga, *t.*, 83
Bragança, *t.*, 83
Braglio, *m.*, 346
Brahilow, *t.*, 330
Brahmakund, *r.*, 481
Brahmanism, 30
Brahmaputra, *r.*, 481
Brak, *sandbank*, 236
Branches of hills, 12
Brandenburg, *pr.*, 288, 294
Brandenburg, *t.*, 287
Braunau, *t.*, 313
Braunsberg, *t.*, 426
Bray, *t.*, 157
Brazil, *emp.*, 585
Brazil, *ms.*, 573
Brazza, *i.*, 396
Breda, *t.*, 226
Bregançon, *i.*, 182
Brehat, *i.*, 152
Breisach, New, *t.*, 213, 244
Breisach, Old, *t.*, 213
Breitenfeld, *t.*, 286
Bremen, *t.*, 274, 275
Bremerhafen, *t.*, 275
Brenner, *p.*, 299
Brenta, *r.*, 368
Brescia, *t.*, 363
Breseou, *f.*, 183
Breslau, *t.*, 292
Bresle, *r.*, 169
Bresse, *r.*, 160
Brest, *b.* and *t.*, 140
Breton, *st.*, 134
Briançon, *t.*, 192
Briansk, *t.*, 418
Briare, *t.*, 142
Briche, *f.*, 159
Bridge Town, *t.*, 615
Brieg, *t.*, 183, 292
Brielle, *t.*, 223
Brienne, *t.*, 162
Brienz, *l.*, 208
Brieuc, St., *b.*, 152
Brieuc, St., *t.*, 153
Brighton, *t.*, 446
Brihuega, *t.*, 77
Brindisi, *t.*, 381
Brioude, *t.*, 144
Brisbane, *t.*, 512
Bristol Channel, 449
Bristol, *t.*, 449
Britannia, 440
British Isles, 440
British Region, 439
Brittany, *pr.*, 106
Brives, *t.*, 131
Brivio, *t.*, 361
Brixen, *t.*, 365
Brizina, *r.*, 545
Broach, *t.*, 485
Brocken, *m.*, 273
Brod, *t.*, 326
Brondolo, *b.*, 370
Brooklyn, *t.*, 606
Brotteaux, *f.*, 185
Brouage, *t.*, 134
Broye, *r.*, 209
Bruck, *t.*, 325
Bruges, *t.*, 228
Brun, *f.*, 181
Brunecken, *t.*, 365
Brunetta, *f.*, 358
Brünn, *t.*, 319
Brunswick, *duc.*, 275
Brunswick, *t.*, 275
Brusa, *t.*, 499
Brusche, *r.*, 216
Brussels, *t.*, 232
Brzesc, *t.*, 297
Buali, *t.*, 554
Bucharest, *t.*, 331
Bückeburg, *t.*, 275
Buckingham, *t.*, 448
Buda, *t.*, 323
Buddhism, 30
Budrum, *t.*, 499
Budweis, *t.*, 279
Buenos Ayres, *t.*, 575
Bufalora, *t.*, 359
Bug, *r.*, 297, 417
Bugaroni, *c.*, 514
Bugges, *peop.*, 508
Bugia, *b.*, 536
Bugio, *f.*, 77
Bujarun, *c.*, 536
Bujerah, *t.*, 536
Bukkur, *f.*, 486
Bulgaria, *pr.*, 333
Bull Run, *plu.*, 604
Bunarbachi, *t.*, 499
Bundelkhund, *sta.*, 485
Bunker's Hill, 607
Buntzlau, *t.*, 293
Buques, *peop.*, 561
Burghausen, *t.*, 313

Burgos, *t.*, 83
Burgundians, *peop.*, 106, 248
Burma, *emp.*, 480
Bury, *t.*, 450
Busaco, *m.*, 79
Busheer, *t.*, 490
Bussa, *t.*, 551
Bussolengo, *pln.*, 366
Bussorah, *t.*, 491
Butrinto, *t.*, 398
Byserta, *t.*, 531
Bytown, *f.*, 611
Bzura, *r.*, 296

C.

Cabana, *f.*, 620
Cabes, *t.*, 531
Cabinda, *t.*, 554
Cabo Corso, *t.*, 553
Cabool, *r.* and *t.*, 487
Cabrera, *i.*, 102
Cabriel, *r.*, 95
Cachao, *t.*, 472
Cacongo country, 554
Cadibona, *p.*, 178
Cadiz, *t.*, 67
Cadore, *t.*, 370
Cadorić Alps, *ms.*, 348
Caen, *t.*, 156
Caffa, *st.*, 48
Cagliari, *f.*, 386
Cahawba, *t.*, 601
Cahors, *t.*, 130
Caicus, *r.*, 499
Cairo, *t.*, 522
Cajamarca, *t.*, 582
Calabar, New, *r.*, 552
Calabar, *sta.*, 552
Calabria Citra, *pr.*, 382
Calabria Ultra, *pr.*, 382
Calabrian Mountains, 373
Calais, *cl.*, 234
Calais, *t.*, 235, 239
Calais, Pas de, *dep.*, 170
Calatayud, *t.*, 97
Calcinato, *t.*, 363
Calcutta, *t.*, 481
Caldiero, *f.*, 348
Caldiero, *t.*, 366
Caledonia, 440
Caledonia, New, *i.*, 511
Calhoun, *f.*, 604
Calicut, *t.*, 484
California, *g.*, 36, 565
California, *sta.*, 592
California, Old, *sta.*, 592
Callao, *t.*, 590
Calle, La, *t.*, 536
Calliano, *f.*, 366
Calluire, *f.*, 185
Calmar, *t.*, 437
Calore, *r.*, 379
Calpe, *m.*, 48
Calpee, *t.*, 482
Calvados Rocks, 151
Calvados, *dep.*, 170
Calvi, *t.*, 385
Calvinists, 31
Cam, *r.*, 448
Camarèt, *t.*, 140
Cambabe, *f.*, 555
Cambay, *b.*, 485
Cambielle, *m.*, 117
Cambodia, *kgd.*, 473
Cambodia, *pn.*, 455
Cambodia, *r.* and *t.*, 472
Cambrai, *t.*, 227, 239, 240
Cambridge, *t.*, 448
Camden, *t.*, 603
Camerino, *t.*, 382
Caminha, *f.*, 84
Caminha, *t.*, 81
Camonica, *v.*, 362
Campan, *v.*, 121
Campeche, *t.*, 595
Camperdown, *t.*, 272
Campobasso, *t.*, 381
Campo Formio, *t.*, 371
Campo Mayor, *t.*, 73
Campos de Parecis, *plt.*, 572
Campredon, *t.*, 100
Camps, entrenched, 34
Canal, *t.*, 497
Canada, *pr.*, 612
Canal, 34
Cananore, *t.*, 485
Canaries, *is.*, 513, 562
Cancale, *b.*, 152
Cancale, *t.*, 153
Canche, *r.*, 170
Candelaro, *r.*, 381
Candia, *i.*, 406
Candia, *t.*, 407
Canea, *t.*, 406
Canfranc, *p.*, 92, 98
Canigou, *m.*, 116
Cannæ, *pln.*, 381
Cannes, *t.*, 182
Cannage, *t.*, 480
Canossa, *castle*, 357
Cantabrian Pyrenees, *ms.*, 87
Cantal, *dep.*, 131
Canterbury, *t.*, 448
Canton, *t.*, 471
Capaccio, *t.*, 382
Cape Breton, *i.*, 609
Cape Brun, *f.*, 181
Cape Coast Castle, *t.*, 553
Cape Colony, 556
Cape Fear, *r.*, 603
Cape Hayti, *t.*, 619
Capes, 6
Cape Town, *t.*, 556
Cape Verde, *is.*, 513, 562
Capitanata, *pr.*, 382
Capo d'Istria, *t.*, 372
Cappadocia, *pr.*, 498
Capri, *i.*, 379
Capri, *t.*, 367
Capsir, *v.*, 120
Capua, *t.*, 379
Capucins, *f.*, 141
Carabusa, *i.* and *t.*, 407
Caraca, *t.*, 68
Caracas, *t.*, 586, 587
Caraman, *f.*, 370
Caramula, *m.*, 79
Carbassera, *p.*, 93
Carbon, *c.*, 536
Carcare, *t.*, 355
Carcassone, *t.*, 120
Cardana, *pr.*, 98
Cardiff, *t.*, 449
Cardigan, *b.*, 449
Cardona, *t.*, 99
Cardonet, *r.*, 99
Careening, *b.*, 419
Carentan, *t.*, 156
Caria, *pr.*, 498
Caribbean Sea, 37, 563
Carical, *t.*, 484
Carignan, *t.*, 224, 242
Carignano, *t.*, 350
Carinthia, *pr.*, 327
Carinthian Alps, *ms.*, 301
Carlo Forte, *f.*, 386
Carlopago, *t.*, 396
Carlos, San, *f.*, 595

Carlsbad, *t.*, 279
Carlsborg, *f.*, 437
Carlskrona, *t.*, 437
Carlsruhe, *t.*, 213
Carlton, *f.*, 612
Carmagnole, *t.*, 35
Carmel, *m.*, 497
Carnic Alps, *ms.*, 301
Carniola, *p.*, 327
Carol, *r.*, 98
Carolina, *t.*, 69
Caroline, *is.*, 510
Carony, *r.*, 585
Carpathian Ms., 49, 295
Carpathian, Central, Ms., 298
Carpathian, Eastern, Ms., 298
Carpathian, Little, Ms., 298
Carpentaria, *g.*, 36
Carpi, *t.*, 357
Carré, *f.*, 182
Carrickfergus, *t.*, 453
Carrion, *r.* and *t.*, 83
Carron, *t.*, 451
Cartagena, *t.*, 91, 587
Carthage, *t.*, 531
Casale, *t.*, 350
Cashmere, *t.* and *v.*, 487
Casiquiare, *r.*, 583, 584
Casius, *m.*, 476
Caspian, *s.*, 48, 456
Caspian, *plt.*, 502
Cassand, *i.*, 229
Cassandria, *b.*, 401
Cassange, *kgd.*, 554
Cassano, *t.*, 362
Cassel, *t.*, 214, 274
Cast, St., *t.*, 153
Castabone, *m.*, 116
Casteggio, *t.*, 356
Castel Delfino, *f.*, 353
Castel del Uovo, *f.*, 379
Castel Fidardo, *t.*, 382
Castelfollit, *t.*, 160
Castellamare, *t.*, 380
Castelnaudary, *t.*, 128
Castel Nuovo, *f.*, 379, 397
Castel Nuovo, *t.*, 356
Castel Sardo, *t.*, 386
Castel Sarrazin, *t.*, 128
Castiglione, *m.*, 363
Castile, New, *pr.*, 73, 78, 101
Castile, Old, *pr.*, 85, 101
Castillon, *t.*, 130
Castlebar, *t.*, 454
Castle William, *f.*, 606
Castles, 34
Castres, *t.*, 130
Castri, *t.*, 400
Castricum, *t.*, 272
Castromarim, *t.*, 71, 72
Castro Villari, *t.*, 380
Catalonia, *pr.*, 101
Catamarca, *t.*, 577
Catania, *t.*, 387
Cataract, 21
Catharina, Sta., *ms.*, 577
Catharina, Sta.; *t.*, 574
Catholicism, 31
Catoche, *c.*, 564, 595
Cattaro, *mouths*, 397
Cattaro, *t.*, 397
Cattegat, *st.*, 45, 435
Cauca, *r.*, 588
Caucasus, Gate of, *p.*, 494
Caucasus, *isth.*, 421
Caucasus, *ms.*, 50, 421, 456
Caudebec, *t.*, 160
Caura, *r.*, 585
Causses, *plt.*, 124
Cauterets, *p.*, 92, 122
Cauvery, *r.*, 484
Cavado, *r.*, 83
Cavaillon, *t.*, 193
Cavallino, *port*, 370
Cavallo, *c.*, 536
Cawnpore, *t.*, 480
Caxine, *c.*, 536
Caya, *r.*, 73
Cayambe, *m.*, 580, 590
Cayeara, *t.*, 584
Cayenne, *t.*, 583
Cayes, *t.*, 619
Cayeux, *b.*, 152
Cayor, *l.*, 550
Cayster, *r.*, 499
Cazeres, *t.*, 127
Celebes, *i.*, 508
Celone, *r.*, 381
Celtæ, *peop.*, 106
Cenis, *p.*, 177
Cenise, *r.*, 358
Central Alps, *ms.*, 49, 200
Cepet, *pn.*, 181
Cephalonia, *i.*, 406
Cephissus, *r.*, 404
Ceram, *i.*, 509
Cere, *r.*, 131
Ceret, *t.*, 117
Cerignola, *t.*, 381
Cerigo, *i.*, 406.
Cerisola, *t.*, 350
Cerro de Pasco, *t.*, 582
Cervera, *c.*, 95, 118
Cervin, *m.*, 175
Cervo, *r.*, 359
Cesena, *t.*, 382
Ceson, *f.*, 152
Cette, *t.*, 180
Cettigne, *t.*, 397
Cettina, *r.*, 396
Ceuta, *t.*, 546
Ceva, *t.*, 354
Cevennes, North, *ms.*, 138
Cevennes, South, *ms.*, 124
Ceylon, *i.*, 456, 478
Cezallier, *m.*, 125
Chabar, *r.*, 491
Chaco country, 576
Chad, *l.*, 553,
Chadda, *r.*, 552
Chaggas, *tr.*, 554
Chain, 6, 12
Chalade, *p.*, 150
Chalcedon, *t.*, 500
Chalcedice, *pn.*, 402
Chalons, *t.*, 163, 187
Cham, *t.*, 308
Chambery, *t.*, 191
Champagne, *pr.*, 114
Champagne Pouilleuse country, 150
Champaubert, *t.*, 164
Champ d'Asile, *t.*, 597
Champlain, *l.*, 611
Chanceaux, *t.*, 156
Chandernagore, *t.*, 481
Chapala, *l.*, 592
Chapus, Le, *t.*, 134
Charente, *dep.* and *t.*, 137
Charente, *r.*, 135
Charenton, *f.*, 159
Charenton, *t.*, 157 164
Charité, La, *t.*, 142
Charlemont, *f.*, 222
Charleroy, *t.*, 225
Charles, St., *f.*, 549

Charleston, *t.*, 603
Charlestown, *t.*, 607
Charleville, *t.*, 222
Charlotteville, *t.*, 604
Charolais, *ms.*, 138
Charpennes, *f.*, 185
Chartres, *t.*, 161
Chartreuse, Grande, *ms.*, 176
Chateau Chinon, *t.*, 160
Chateaudun, *t.*, 147
Chateau du Loir, *t.*, 147
Chateaulin, *t.*, 147
Chateauneuf de Randan, *t.*, 144
Chateau Porcien, *t.*, 166
Chateauroux, *t.*, 145
Chateau Thierry, *t.*, 163
Chatellerault, *t.*, 145
Chatham, *t.*, 447
Chatillon, *t.*, 145, 146, 156
Chatre, La, *t.*, 145
Chattapoochee, *r.*, 601
Chaumont, *t.*, 163
Chaussade, La, *forges*, 146
Chaves, *t.*, 83
Chekana, *r.*, 425
Chemokonski, *plt.*, 50, 410
Chenab, *r.*, 487
Chêne Populeux, *p.*, 150
Cher, *dep.*, 147
Cher, *r.*, 144
Cherbourg, *t.*, 154
Cherchell, *t.*, 538
Cheronnac, *t.*, 135
Cherso, *i.*, 396
Chesapeake, *b.*, 605
Cheviot, *ms.*, 443
Chevre, *c.*, 140
Chiana, *cl.*, 377
Chiana, *r.*, 378
Chiapa, *t.*, 595
Chiari, *t.*, 362
Chiasco, *r.*, 378
Chiavari, *t.*, 376
Chiaveuna, *t.*, 361
Chicago, *t.*, 610
Chicova, *pln.*, 557
Chienti, *r.*, 382
Chieraseo, *t.*, 355
Chiers, *r.*, 224
Chiese, *r.*, 363
Chiese Alps, *ms.*, 346, 347
Chieti, *t.*, 381
Chiffa, *r.*, 541
Chihuahua, *t.*, 597
Chili, *rep.*, 589, 590
Chili, New, country, 588, 590
Chiloe, *i.*, 565, 589
Chimborazo, *m.*, 580
Chimera, *ms.*, 398
China, *emp.*, 472
China Sea, 361, 455
Chincha, *is.*, 565
Chinese, *ms.*, 456
Chinese, *plt.*, 504
Chiug Kiang, *t.*, 471
Chinon, *t.*, 145
Chioggia Harbour, 370
Chioggia, *t.*, 368, 370
Chirsira, *r.*, 557
Chisola, *r.*, 358
Chittledroog, *t.*, 483
Chiusa di Pletz, *f.*, 371
Chiusa Veneta, *f.*, 371
Chivasso, *t.*, 350
Choczim, *t.*, 415
Cholet, *t.*, 146
Chonos, *is.*, 565
Choo Kiang, *r.*, 471
Christiania, *t.*, 438
Christianity, 31
Christiansand, *t.*, 438
Christianstad, *t.*, 437
Christianstedt, *t.*, 618
Chumpaneer, *f.*, 485
Chunar, *t.*, 480
Chunchis, *peop.*, 571
Chuquisaca, *t.*, 576
Chur, *t.*, 206
Church, States of the, 372, 382
Chusi, *t.*, 481
Chyl, *r.*, 351
Cibao, *ms.*, 618
Cicogne, *f.*, 141
Cierfs, *p.*, 299
Cilicia, *pr.*, 498
Cinca, *r.*, 98
Cincinnati, *t.*, 600
Cinnols, *m*, 201
Cinq Ports, *ts.*, 446
Cintra, *m.* and *t.*, 75
Ciotat, La, *t.*, 181
Circassia, *pr.*, 422
Circassians, *peop.*, 501
Cismone, *f.*, 368
Citadella, *t.*, 368
Citadels, 34
Citheron, *m.*, 391
Cities, 33
City, 32
Ciudad Real, *t.*, 71
Ciudad Rodrigo, *t.*, 82
Civilized peoples, 32
Civita Castellana, *t.* 377,
Civita Vecchia, *t.*, 377
Civitella di Tronto, *t.*, 381
Civray, *t.*, 135
Clackmannan, *t.*, 451
Clain, *r.*, 145
Clair, St., *l.* and *r.*, 610
Clairet, *r.*, 192
Clamecy, *t.*, 160
Clara, *sta.*, *f.*, 620
Clearwater, *l.*, 613
Clemente, San, *t.*, 72
Clermont en Argonne, *t.*, 166
Clermont-Ferrand, *t.*, 144
Cleves, *duc.*, 219
Cliffs, 25
Clisson, *t.*, 146
Cloud, St., *t.*, 159
Clusone, *r.*, 358
Clyde, *r.*, 450
Coa, *r.*, 82
Coanza, *r.*, 554
Coasts, 25
Coblenz, *t.*, 215, 243
Cocherel, *t.*, 162
Cochin, *t.*, 484
Cochin China, *kgd.*, 472, 473
Cod, *c.*, 564
Codan, *st.*, 45
Coeverden, *t.*, 270
Cognac, *t.*, 135
Coimbra, *t.*, 78, 81
Col, 13
Colberg, *t.*, 292
Colchis, *pr.*, 501
Coleah, *t.*, 541
Collioure, *t.*, 118
Collo, *t.*, 536
Colmar, *t.*, 216
Colmars, *t.*, 194
Colme, *cl.*, 234
Cologne, *t.*, 215
Colombano, San, *t.*, 361
Colombia, *rep.*, 586

Colombier, *f.*, 185
Colombo, *t.*, 478
Colorado, *r.*, 575, 593
Colorado, *sta.*, 593
Colouri, *i.*, 407
Columbia, *r.*, 593
Columbia, *t.*, 603
Columbian Is., 614
Columbus, *f.*, 606
Columbus, *t.*, 601
Comacchio, *l.*, 352
Comacchio, *t.*, 353
Commercy, *t.*, 222
Como, *l.*, 361
Comores, *is.*, 559
Comorin, *c.*, 456
Compiègne, *t.*, 166
Concarneau, *t.*, 140
Conception, *t.*, 589
Conchée, *f.*, 153
Conchos, *r.*, 596
Condé, *t.*, 227, 239, 240
Condom, *t.*, 129
Conflans, *t.*, 166
Confluence, 20
Confolens, *t.*, 145
Congaree, *r.*, 603
Congo country, 554
Congo, *r.*, 554
Coni, *t.*, 354
Connecticut, *r.*, 606
Connewitz, *t.*, 286
Constance, *l.* and *t.*, 266
Constance, *ms.*, 260
Constantina, *ms.*, 67
Constantine, *f.*, 419
Constantine, *ms.*, 529
Constantine, *t.*, 539
Constantinople, *st.*, 48
Constantinople, *t.*, 400
Contessa, *b.*, 401
Continents, 5, 8
Cook, *m.*, 511
Copais, *l.*, 404
Copenhagen, *t.*, 289
Coppo, *r.*, 356
Copts, *prop.*, 526
Coquimbo, *t.*, 589
Coral, *s.*, 36
Coraudoni, *m.*, 201
Corbach, *t.*, 275
Corbeau, *f.*, 141
Corbeil, *t.*, 157
Corbelin, *c.*, 536
Corbie, *t.*, 169
Corbières, *ms.*, 116, 124
Cordillera of Guatemala, *ms.*, 591
Cordillera of Mexico, *ms.*, 591
Cordilleras, *ms.*, 566, 580, 587, 591
Cordouan, *lighthouse*, 129
Cordova, *pr.*, 69
Cordova, *t.*, 68, 577
Corea, *pn.*, 455, 470, 472
Corentyn, *r.*, 584
Corfu, *i.*, 406
Coria, *t.*, 78
Corinth, *isth.*, 404
Corinth, *t.*, 405
Corinthia, *pr.*, 392
Cork, *t.*, 453
Corlitte, *m.*, 49, 116
Cornelia, *t.*, 119
Corneto, *t.*, 377
Cornice, *road*, 178, 195, 345
Corno, *m.*, 373
Cornouailles, *f.*, 141
Cornwall, *pn.*, 444
Coromandel Coast, 481
Corona, *plt.*, 363
Correze, *dep.* and *r.*, 131
Corrib, *l.*, 454
Corrientes, *c.*, 513
Corrientes, *t.*, 575
Corrobedo, *c.*, 81
Corsica, *i.*, 383
Corte, *t.*, 385
Coruña, *t.*, 87
Corvo, *i.*, 102
Coscile, *r.*, 380
Cosenza, *t.*, 380
Cosne, *t.*, 142
Cosseir, *t.*, 525
Costa Rica, *rep.*, 597
Cotbus, *cl.*, 294
Côte d'Or, *dep.*, 170, 195
Côte d'Or, *m.*, 138, 148
Cotopaxi, *m.*, 580, 590
Côtes du Nord, *dep.*, 170
Cottian Alps, *ms.*, 175, 177
Couesnon, *r.*, 155
Coulommiers, *t.*, 164
Courbevoie, *t.*, 159
Courland, *pr.*, 428
Couronne, *c.*, 180
Courtray, *t.*, 231, 239, 240
Coustouges, *p.*, 93, 117
Coutances, *t.*, 156
Coutras, *t.*, 131
Cove, *t.*, 453
Coves, 6
Cracow, *t.*, 296
Craonne, *plt.*, 167
Crater, 15
Crati, *r.*, 380
Crawford, *f.*, 599
Crecy, *pln.*, 169
Credo, *m.*, 176
Creeks, 6
Crefeld, *t.*, 215
Creil, *t.*, 166
Cremona, *t.*, 351
Crest, *t.*, 192
Crest of hill, 12
Crete, *i.*, 406
Creus, *c.*, 94
Creuse, *dep.*, 147
Creuse, *r.*, 145
Crevecœur, *f.*, 226
Crimea, *pn.*, 418
Crio, *t.*, 499
Croatia, *pr.*, 328, 400
Croia, *t.*, 398
Croisic, *t.*, 140
Croix aux Bois, *p.*, 150
Croix de Colbas, *m.*, 179
Croix des Bouquets, *m.*, 89
Croix Rousse, *m.*, 185
Croix, Ste., *f.*, 538
Cronstadt, *i.* and *t.*, 431
Crostolo, *r.*, 357
Crotone, *t.*, 380
Crotoy, *t.*, 169
Crownwork, Double, *f.*, 159
Cruz, Sta., *i.*, 617
Cruz, Sta., *t.*, 562
Cruz de la Sierra, Sta., *t.*, 583
Ctesiphon, *t.*, 491
Cuba, *i.*, 619
Cudlina, *r.*, 279
Cuença, *m.*, 74
Cuença, *t.*, 95
Cullinacan, *t.*, 595
Culloden, *pln.*, 452
Culminating point of hill, 12
Cuma, *t.*, 379

Cumana, *t.*, 587
Cumberland, *ms.*, 598
Cumberland, *r.*, 601
Cundinamarca, *plt.* and *r.*, 588
Curaçao, *i.*, 614
Cure, *r.*, 160
Curische Haff, *l.*, 426
Currents of ocean, 26
Curzola, *i.*, 396
Custozza, *t.*, 366
Cusu Leubu, *r.*, 571
Cutch, *marsh* and *i.*, 487
Cuttack, *t.*, 483
Cuxhaven, *t.*, 282
Cyclades, *is.*, 407
Cydnus, *r.*, 498
Cyprus, *i.*, 456, 494
Cyr, St., *t.*, 159
Cyrenaica country, 527
Cyrene, *t.*, 527
Cyrrha, *t.*, 400
Czaslau, *t.*, 278
Czenstochau, *t.*, 294
Czepel, *i.*, 323
Czerhatz, *m.*, 298
Czernowitz, *t.*, 331
Czorna, *m.*, 298

D.

Dacca, *t.*, 481
Dach, *m.*, 202
Dachau, *t.*, 311
Dacia, *pr.*, 249
Daghana, *t.*, 549
Dago, *i.*, 431
Dahl, *r.*, 436
Dahomey, *kgd.*, 552
Dahra, *ms.*, 528
Dalarœ, *f.*, 437
Dalecarlia, *pr.*, 436
Dalmatia, *pr.*, 400
Damala, *t.*, 405
Damaras, *peop.*, 555
Damascus, *t.*, 498
Damer country, 521
Damietta, *t.*, 523
Damme, *t.*, 228
Dangerous, *is.*, 511
Danish Archipelago, 45
Danish Peninsula, 288
Dantzic, *g.*, 45
Dantzic, *t.*, 296
Danube, *basin*, 297
Danube, *r.*, 303
Dardanelles, *fs.*, 401
Dardanelles, *st.*, 47
Dariel, *f.*, 423
Daro, *r.*, 69
Daroca, *t.*, 97
Dartmouth, *t.*, 415
Dauphin, *f.*, 193, 561
Dauphiny, *pr.*, 115
Dauphiny Alps, *ms.*, 177
Dauria, *pr.*, 472
Davis Strait, 564
Dax, *t.*, 121
Daya, *f.*, 542
Daya, *m.*, 532
Dead Sea, 497
Deba, *r.*, 88
Debu, *l.*, 551
Debra Tabor, *t.*, 524
Delt, 33
Deccan, *plt.*, 483
Dee, *r.*, 451
Defiles, 13
Dego, *t.*, 355
Delaware, *b.* and *r.*, 605
Delee, *f.*, 141
Delemont, *t.*, 211
Delft, *t.*, 271
Delfzyl, *r.*, 271
Delgado, *c.*, 513
Delhi, *t.*, 482
Dellys, *t.*, 537
Delsberg, *t.*, 211
Delta of Nile, 523
Delvino, *t.*, 398
Demavend, *m.*, 476
Dembea, *l.*, 524
Demer, *r.*, 232
Demerara, *r.*, 584
Demir-Kapou, *p.*, 402
Demonte, *t.*, 354
Demotica, *t.*, 402
Denain, *t.*, 227
Dender, *r.*, 232
Dendærah, *t.*, 522
Dendermonde, *t.*, 228
Dengis, *l.*, 503
Denis, St., *cl.*, 164
Denis, St., *plu.*, 158
Denis, St., *t.*, 160, 230, 543, 561
Denmark, *kgd.*, 288
Dennewitz, *t.*, 287
Dent de Jaman, *m.*, 174, 202
Deppen, *t.*, 426
Deptford, *t.*, 447
Derbiab, *t.*, 493
Derbend, *t.*, 423
Dernah country, 529
Desaguadero, *r.*, 575
Desague, *r.*, 596
Deserts, 18
Desirade, *i.*, 617
Desna, *r.*, 418
Despeña Perros, *p.*, 66
Despoto Dagh, *m.*, 402
Dessau, *t.*, 283, 284
Detmold, *t.*, 275
Detroit, *r.* and *t.*, 610
Dettingen, *t.*, 267
Dettweiler, *t.*, 216
Deule, *r.*, 231
Deutz, *t.*, 215
Deux Ponts, *t.*, 219
Deventer, *t.*, 220
Devil, *m.*, 556
Devil's Bridge, 209
Devonport, *t.*, 445
Diamantina, *t.*, 577
Diarbekr, *t.*, 491
Die, *t.*, 192
Dié, St., *t.*, 218
Diemel, *r.*, 274
Dienville, *t.*, 162
Dieppe, *t.*, 155
Dieu, *i.*, 134
Digne, *t.*, 194
Digoin, *t.*, 142
Dihong, *r.*, 481
Dijon, *t.*, 188
Dinan, *t.*, 155
Dinant, *t.*, 222
Dinara, *m.*, 302
Dinaric Alps, *ms.*, 302
Dinka country, 521
Dirah, *m.*, 529
Disentis, *t.*, 205
Dive, *r.*, 145
Divenou, *mouth*, 293
Dizier, St., *t.*, 163
Djusak, *t.*, 503
Dnieper, *r.*, 416
Dniester, *r.*, 415
Dobrutcha, *pn.*, 30
Dödi, *m.*, 202
Doesburg, *t.*, 220

Dofrines, *ms.*, 50, 434
Dokchitsy marsh, 417
Dolce, *l.*, 595
Dolce, *r.*, 577
Dole, *m.*, 172
Dole, *t.*, 189
Dolguinowiczi marsh, 427
Dollart, *g.*, 271
Domes, *ms.*, 125, 137
Domingo, St., *i.*, 618
Domingo, St., *t.*, 619
Dominica, *i.*, 616
Dömitz, *t.*, 287
Dommel, *r.*, 226
Domo d'Ossola, *t.*, 359
Domremy, *t.*, 222
Don, *r.*, 421
Donaueschingen, *t.*, 303
Donauwerth, *t.*, 305
Donchery, *t.*, 222, 242
Donegal, *b.*, 454
Donetz, *r.*, 421
Donga country, 520
Dongola country, 521
Donjon, *f.*, 193
Donnersberg, *m.*, 203
Donon, *m.*, 203
Dordogne, *dep.*, 131
Dordogne, *r.*, 130
Dordrecht, *t.*, 223
Dore, *r.*, 144
Dores, *ms.*, 125
Doria Baltea, *r.*, 358
Doria Riparia, *r.*, 358
Doris, *pr.*, 499
Dornburg, *t.*, 284
Dorogobouj, *t.*, 416
Douai, *t.*, 230, 239
Douarnenez, *b.*, 140
Doubs, *dep.*, 195
Doubs, *r.*, 189
Doué, *t.*, 145
Doueira, *t.*, 537
Doulens, *t.*, 170, 240
Douro, *r.*, 81
Douve, *r.*, 156
Doux, *r.*, 190
Dover, *t.*, 446
Dovrefield, *ms.*, 50, 434
Dowlutabad, *t.*, 483
Drac, *r.*, 192
Dmguignan, *t.*, 194
Drakenberg, *m.*, 555
Drama, *t.*, 402
Dransc, *r.*, 190
Drau, *r.*, 325
Drave, *r.*, 325
Drei Herrn Spitz, *m.*, 299, 300
Dreisam, *r.*, 265
Dresden, *t.*, 283
Dreux, *t*, 162
Drin, *r.*, 397
Drina, *r.*, 326
Drino, *g.*, 397
Drissa, *t.*, 428
Drogheda, *t.*, 453
Drome, *dep.*, 196
Drome, *r.*, 192
Dron, *st.*, 46
Dronne, *r.*, 131
Drontheim, *t.*, 439
Drugeon, *r.*, 189
Drusenheim, *t.*, 216
Druses, *peop.*, 496
Düben, *t.*, 284
Dubieza, *t.*, 326
Dublin, *t.*, 453
Duchere, *f.*, 185
Dudon, *r.*, 499
Duero, *r.*, 81
Duerstede, *t.*, 221
Duisburg, *t.*, 269
Dukar, *t.*, 550
Dulcigno, *t.*, 397
Dumbarton, *t.*, 450
Dumbovicza, *r.*, 331
Düna, *r.*, 428
Dunaburg, *t.*, 428
Dünamünde, *f.*, 428
Duncansby, *c.*, 452
Dundee, *t.*, 451
Dunes battlefield, 226
Dungmore, *f.*, 453
Dunkirk, *t.*, 236, 239
Durance, *r.*, 192
Durango, *t.*, 592
Durazzo, *t.*, 398
Düren, *t.*, 226
Durrenstein, *t.*, 316
Düsseldorf, *t.*, 215
Dwina, *r.*, 428, 432
Dyle, *r.*, 232

E.

Early, *f.*, 602
Earth, Interior of, 1
Earth, Surface of, 5
Earthquakes, 16
East, *c.*, 455
Eastern Sea, 455
Ebb tide, 26
Ebersberg, *t.*, 320
Ebro, *r.*, 96
Echelles, *t*, 191
Ecija, *t.*, 69
Eckmühl, *t.*, 310
Ecluse, *f.*, 184
Ecluse, *t.*, 228, 236
Ecuador, *rep.*, 586, 590
Edfou, *t.*, 522
Edinburgh, *t.*, 451
Edolo, *t.*, 362
Edough, *m.*, 529
Eger, *r.*, 279, 307
Eger, *t.*, 279
Egeri, *l.*, 209
Egge, *r.*, 307
Eggegebirge, *ms.*, 263
Eghris, *plu.*, 543
Egina, *i.*, 407
Egrison, *m.*, 302
Eguillette, *f.*, 181
Egypt, *kgd.*, 526
Ehrenberg, *f.*, 309
Ehrenbreitstein, *f.*, 215
Eider, *r.*, 289
Eifelgebirge, *ms.*, 204
Eilenburg, *t.*, 284
Eichstedt, *t.*, 307
Eisack, *r.*, 365
Eisenach, *t.*, 275
Ekaterineburg, *t.*, 425
Ekaterinodar, *t.*, 419
Ekaterinoslav, *t.*, 416
Elba, *i.*, 385
Elbassan, *t.*, 398
Elbe, *basin*, 276
Elbe, *r.*, 278
Elberfeld, *t.*, 269
Elbeuf, *t.*, 160
Elbing, *t.*, 296
Elbogen, *t.*, 279
Elburz, *m.*, 421
Elchingen, *t.*, 304
Elde, *r.*, 287
Elend, *m.*, 300
Elephantine, *i.*, 521
Elero, *r.*, 354
Eleuths, *peop.*, 504
Elfsborg, *t.*, 438

Elias, St., *m.*, 593
Elis, *pn.*, 392, 405
Elizabeth, *r.*, 603
Elly, *t.*, 493
Ellisondo, *t.*, 88
Ellwangen, *t.*, 266
Elme, St., *f.*, 118
Elmina, *t.*, 553
Elmo, St., *f.*, 379
Elne, *t.*, 118
Elsens, *r.*, 266
Elsinore, *t.*, 289
Elster, *r.*, 285
Elster, Black, *r.*, 286
Elsterwerda, *t.*, 286
Elstredo, *m.*, 84
Elvas, *t.*, 73
Elvend, *m.*, 476
Elz, *r.*, 265
Embel, *m.*, 178
Embrun, *t.*, 193
Emden, *t.*, 271
Eminch Dagh, *m.*, 302
Emmen, *r.*, 209
Emperor, *f.*, 537
Ems, *r.*, 270
Enet, *f.*, 134
Engadin, *v.*, 312
Engen, *t.*, 264
Engi, *v.*, 210
England, *kgd.*, 441, 443
English, *f.*, 537
English Channel, 46
English Harbour, *t.*, 617
Enniskillen, *t.*, 454
Enns, *r.* and *t.*, 321
Enos, *b.*, 401
Ensheim, *t.*, 216
Entre Douro e Minho, *pr.*, 85
Entrenched camps, 34
Entrevaux, *t.*, 194
Enz, *r.*, 266
Enzersdorf, *t.*, 318
Eperies, *t.*, 324
Epernay, *t.*, 163
Epinal, *t.*, 217
Epirus, *pr.*, 391
Erasmo, San, *port*, 370
Eresma, *r.*, 82
Erfurt, *t.*, 285
Ergent, *r.*, 398
Erie, *cl.*, 606
Erie, *f.* and *l.*, 610
Erivan, *t.*, 502
Erlach, *r.*, 219
Erne, *r.* and *l.*, 454
Erro, *r.*, 355
Erzeroum, *m.*, 494
Erzeroum, *t.*, 490
Erzgebirge, *ms.*, 277
Escaut, *r.*, 227
Eschwege, *t.*, 274
Escurial Monastery, 77
Esdraelon, *v.*, 497
Eski Shehr, *t.*, 500
Eski Stambul, *t.*, 499
Esne, *t.*, 522
Espichel, *c.*, 76
Espinous, *m.*, 124
Espinoza, *t.*, 97
Esprit, St., *f.*, 121
Esquerdes, *t.*, 234
Esquimaux, *peop.*, 613
Esseillon, *f.*, 177, 192
Essen, *t.*, 269
Essequibo, *r.*, 584
Essera, *r.*, 99
Es Siout, *t.*, 522
Essling, *t.*, 317, 318
Essonne, *r.*, 161
Est, *f.*, 159
Estatz, *m.*, 123
Esteban, San, *t.*, 88
Esterel, *m.*, 179
Esteron, *r.*, 194
Esthonia, *pr.*, 429
Estrella, *m.*, 75
Estremadura, Portuguese, *pr.*, 79, 85
Estremadura, Spanish, *pr.*, 73, 78
Estremoz, *m.*, 70
Eszek, *t.*, 325
Etaples, *t.*, 160
Etienne, St., *t.*, 146
Etko, *l.*, 524
Etna, *m.*, 386
Etsch, *r.*, 365
Ettrick, *r.*, 451
Eu, *t.*, 169
Eufemia, Sta., *t.*, 380
Eu Ho, *r.*, 470
Eulengebirge, *ms.*, 291
Eupatoria, *t.*, 419
Eupel, *r.*, 320
Euphrates, *r.*, 490
Eure, *dep.*, 170
Eure, *r.*, 161
Eure et Loir, *dep.*, 170
Europe, 37, 44
Europe, *c.*, 46, 64
Europe, *f.*, 400
Eurymedon, *r.*, 499
Eustatius, St., *i.*, 617
Everest, *m.*, 475
Evian, *t.*, 190
Evora, *t.*, 78
Evreux, *t.*, 162
Exe, *r.*, 445
Executive power, 33
Exeter, *t.*, 445
Exilles, *f.*, 358
Eylau, *t.*, 427
Eyrieux, *r.*, 190
Eziongeber, *t.*, 493
Ezla, *r.*, 83

F.

Fagnes, 150
Falcon, *c.*, 536
Faleme, *r.*, 550
Falkirk, *t.*, 451
Falkland, *is.*, 564, 571
Falleron, *r.*, 136
Falmouth, *t.*, 445
False, *b.*, 556
Falster, *i.*, 290
Falun mines, 436
Famagosta, *t.*, 495
Famars, *pln.*, 227
Famich, *t.*, 496
Family, 32
Fanagoria, *t.*, 422
Fanari, *f.*, 309
Fano, *t.*, 382
Farewell, *c.*, 564
Faro, *t.*, 71
Faron, *m.*, 181
Faucilles, *ms.*, 171, 204
Favorita, *f.*, 364
Fayal, *i.*, 102
Fayetteville, *t.*, 603
Fe, Sta., *t.*, 575, 596
Fecamp, *t.*, 155
Fecht, *r.*, 216
Feldberg, *m.*, 261
Feldkirch, *t.*, 264
Felice, San, *f.*, 370
Felix, *r.*, 371
Fellahs, *peop.*, 527
Fellatas, *emp.*, 548, 551

Feltre, *t.*, 370
Fenestrelles, *f.*, 358
Fer, *c.*, 536
Fere, La, *t.*, 166
Fere en Tardenois, *t.*, 164
Fernandina de Jagua, *t.*, 620
Fernando, San, *f.*, 100
Fernando, San, *t.*, 68, 585
Fernando de las Nuevitas, San, *t.*, 620
Fernando Po, *i.*, 513
Ferrara, *t.*, 357
Ferrat, *c.*, 536
Ferro, *i.*, 562
Ferrol, *t.*, 88
Ferté Gaucher, *t.*, 164
Ferté Milon, *t.*, 164
Ferté sous Jouarre, *t.*, 163
Fetichism, 30
Fez, *t.*, 546
Fezzan, *sta.*, 547
Fichtelgebirge, *ms.*, 262
Fier, *r.*, 191
Figalo, *c.*, 536
Figuera, *t.*, 81
Figueras, *t.*, 100
Fiji, *is.*, 511
Filabres, *ms.*, 64
Fils, *r.*, 266, 308
Finistere, *dep.*, 148, 170
Finisterre, *c.*, 81, 87
Finland, *g.*, 46
Finland, *pn.*, 430
Finns, *peop.*, 414
Finster Aarhorn, *m.*, 174
Fiumalbo, *p.*, 345
Fiume, *t.*, 396
Flanders, *pr.*, 113, 236
Flank of hill, 12
Flattery, *c.*, 565
Flèche, La, 147
Flensburg, *t.*, 289
Fleurus, *t.*, 225
Flint, *r.*, 602
Flittas, *peop.*, 542
Floatable rivers, 24
Flood-tide, 26
Floods, 22
Florence, *t.*, 376
Florent, St., *t.*, 143, 385
Flores, *i.*, 102, 508
Florida, *c.*, 564
Florida, *pn.*, 564, 602
Floss Graben, *r.*, 285
Flushing, *t.*, 229
Fluvia, *r.*, 100
Fo, religion of, 30
Foggia, *t.*, 381
Foglia, *r.*, 382
Foix, *pr.*, 112
Foix, *t.*, 129
Fokia, *t.*, 499
Foktchany, *t.*, 331
Foligno, *t.*, 378
Folkestone, *t.*, 446
Fombio, *t.*, 362
Fontainebleau, *t.*, 157
Fontaine Française, *t.*, 188
Fontanone, *r.*, 354
Fontenay, *t.*, 136
Fontenay en Puisaye, *t.*, 161
Fontenoy, *t.*, 227
Foot of hill, 12
Fords, 22
Forest towns, 207
Forêt, *b.*, 140
Forez, *m.*, 138
Forli, *t.*, 382
Formentera, *i.*, 102
Formosa, *c.*, 513
Formosa, *i.*, 455, 469
Formosa, *r.*, 552
Formovo, *t.*, 357
Fort de France, *t.*, 511
Fort Royal, *t.*, 615
Forth, *r.*, 451
Fortresses, 34
Fossano, *t.*, 355
Fossils, 3
Fossombrone, *t.*, 382
Fouah, *t.*, 523
Fougères, *t.*, 155
Foulness, *i.*, 447
Foulpoint, *t.*, 560
Four Cantons, *l.*, 209
Fouras, *f.*, 134, 135
Fourvières, *m.*, 185
Fox Channel, 563
Foy, Ste., *f.*, 185
Foyle, *l.*, 453
Français, *f.*, 234
France, *emp.*, 107, 111
France, *i.*, 561
Franche Comté, *pr.*, 115
Francisco, San, *t.*, 593
François, St., *f.*, 230
Francoli, *r.*, 99
Franconia, *plt.*, 262
Fankenwald, *ms.*, 262
Frankfort, *t.*, 267, 270, 292, 601
Franks, *peop.*, 106, 248
Fraser, *r.*, 593
Frassineto, *t.*, 351
Frat, *r.*, 490
Fraubrunnen, *t.*, 208
Frauenfeld, *t.*, 207
Frederiksborg, *f.*, 289, 437
Frederikshald, *f.*, 438
Frederikshamn, *t.*, 430
Frederikshorn, *f.*, 289
Frederiksvoern, *t.*, 438
Freetown, *t.*, 550
Frejus, *t.*, 182
Freiberg, *t.*, 284
Freiburg, *t.*, 208, 265, 285
Freising, *t.*, 311
Fremont's Peak, *m.*, 566
French Empire, statistics, 245
French region, 103, 111
Friedland, *t.*, 427
Friedlingen, *t.*, 213
Friendly Islands, 511
Friesland, *pr.*, 272
Frio, *c.*, 564
Frioul harbour, 181
Frische Haff, *l.*, 295, 426
Frisians, *peop.*, 249
Friuli, *pr.*, 372
Frosinone, *t.*, 379
Frouard, *t.*, 217
Froward, *c.*, 564
Fuentarrabia, *t.*, 88, 89
Fuentes, *t.*, 361
Fuentes de Onoro, *plt.*, 83
Fuerte Ventura, *i.*, 562
Fulado, *sta.*, 550
Fulas, *emp.*, 548, 551
Fulbe, *emp.*, 548
Fulda, *r.* and *t.*, 274
Full tide, 26
Funchal, *t.*, 562
Funda, *sta.*, 552

Funen, *i.*, 289
Furka, *p.*, 174
Furens, *r.*, 146
Furnes, *t.*, 235, 239
Furrukhabad, *t.*, 480
Fury and Hecla, *st.*, 564
Füssen, *t.*, 309
Futa Toro, *sta.*, 549
Futtehghur, *t.*, 480
Fyen, *i.*, 289
Fyzabad, *t.*, 481

G.

Gabes, *b.*, 514
Gabes, *t.*, 531
Gaboon country, 552
Gaboon, *t.*, 553
Gadames, *st.*, 547
Gaeta, *t.*, 378
Gaillac, *t.*, 130
Galacz, *t.*, 330
Galam, *st.*, 550
Galapagos, *is.*, 565
Galatia, *pr.*, 498
Galaxidi, *t.*, 400
Galicia, *pr.*, 85, 89, 297, 415
Galilee district, 497
Gallas, *peop.*, 559, 526
Galle, *t.*, 478
Gallego, *r.*, 98
Gallen, St., *t.*, 207
Gallenstock, *m.*, 201
Gallersbach, *r.*, 319
Galli, *peop.*, 106
Gallic Alps, 49
Gallipoli, *t.*, 380, 401
Galveston, *t.*, 597
Galway, *b.* and *t.*, 454
Gambia, *r.*, 550
Gambier, *is.*, 511
Gana, *m.*, 450
Gand, *t.*, 228, 239, 240
Gandicotta, *f.*, 484
Gando, *emp.*, 551
Ganduck, *r.*, 481
Ganges, *r.*, 480
Gap, *t.*, 194
Gard, *dep.* 196
Gard, *r.*, 190
Garda, *l.*, 363
Garde, *c.*, 536
Gariep, Ky, *r.*, 557
Gariep, Nu, *r.*, 557
Garigliano, *r.*, 379
Garonne, *basin*, 123
Garonne, *r.*, 126
Garonne, Up., *dep.*, 131
Garrigues, *m.*, 124
Gartempe, *r.*, 145
Garz, *t.*, 292
Gascony, *pr.*, 106
Gastein, Wildbad, *t.*, 313
Gata, *c.*, 94, 64
Gata, *m.*, 74
Gatine, *plt.*, 133
Gaudens, St., *t.*, 127
Gaul, 103
Gaul, table of divisions of, 112
Gauls, 52
Gauri Sankar, *m.*, 475
Gavarnie, *waterfall*, 122
Gave de Pau, *r.*, 122
Gave d'Oleron, *r.*, 122
Gavi, *t.*, 355
Gavi, *f.*, 345
Gaza, *t.*, 496
Gebora, *r.*, 73
Geer, *r.*, 226
Geertruidenberg, *t.*, 223
Geeste, *r.*, 275
Geete, *r.*, 232
Geisenfeld, *t.*, 310
Geisenkergebirge, *m.*, 292
Gelderland, *pr.*, 272
Geltenhorn, *p.*, 174
Gemersheim, *t.*, 213
Gemmi, *p.*, 174
Gemünden, *t.*, 267
Geneva, *l.* and *t.*, 184
Geneva, *canton*, 195
Genevre, *m.* and *p.*, 177
Genil, *r.*, 69
Genis, St., *t.*, 184
Genoa, *pr.*, 382
Genoa, *t.*, 373
Genoa, Gulf of, 47
Genola, *t.*, 353
Geography, History of, 39
George, *f.*, 452, 484
George, St., *i.*, 102
George, St., *t.*, 621
George Town, *t.*, 479, 584
Georgia, *i.*, 571
Gera, *r.* and *t.*, 285
Geranea, *m.*, 391
Gerbier des Jones, *m.*, 138
Gerez, *m.*, 84
Gergovie, *m.*, 144
Germain, St., *t.*, 160
German Alps, 49
German Ocean, 45
German Ocean Watershed, 199
German Confederation, North, 259
German Region, 246
Germanic Confederation, 259
Germans, 52, 107
Gerona, *t.*, 100
Gers, *r.*, 129
Gers, *dep.*, 129, 131
Geryville, *f.*, 544
Gettysburg, *t.*, 605
Gévaudan, *m.*, 124
Ghauts, *m.*, 477
Ghara, *r.*, 487
Ghardeia, *t.*, 545
Gharian, *m.*, 527
Ghazipoor, *t.*, 480
Ghenitchi, *st.*, 418
Ghenitchi, *f.*, 420
Ghent, *t.*, 228, 239, 240
Ghiustendil, *t.*, 402
Ghoorkas, *peop.*, 483
Ghorra, *m.*, 529
Ghuzni, *t.*, 487
Giant Mountains, 277
Gibraltar, *c.*, 64
Gibraltar, *t.*, 64
Gibraltar, *st.*, 46
Gien, *t.*, 142
Gigueha, *r.*, 72
Gilles, St., *t.*, 136
Gilles, St., *t.*, 186
Gillolo, *i.*, 509
Gingiro, *kgd.*, 559
Giorgio, San, *f.*, 364
Giovi, *p.*, 345
Girgeh, *t.*, 522
Girgenti, *t.*, 387
Girolata, *f.*, 385
Gironde, *r.*, 128
Gironde, *dep.*, 131
Girons, St., *t.*, 129
Gitschin, *t.*, 279
Giurgevo, *t.*, 330
Givet, *t.*, 222, 241, 242
Givors, *t.*, 186

Gizio, *r.*, 380
Glaciers, 14
Glane, *r.*, 217
Glarus, *t.*, 210
Glasgow, *t.*, 450
Glatt, *r.*, 207
Glatz, *t.*, 293
Glenans, *i.*, 141
Gliubotin, *m.*, 302
Gloucester, *t.*, 449
Glogau, *t.*, 292
Glommen, *r.*, 438
Glory, *f.*, 430
Glückstadt, *t.*, 283
Glurns, *t.*, 365
Gly, *r.*, 119
Gmunden, *t.*, 320
Goa, *t.*, 485
Gobi desert, 504
Godavery, *r.*, 483
Goding, *t.*, 319
Goeree, *f.*, 223
Gogra, *r.*, 481
Goito, *t.*, 364
Gojam country, 524
Golconda, *t.*, 484
Goletta, *t.*, 531
Gomera, *i.*, 562
Gonaives, *t.*, 619
Gondar, *t.*, 524
Gondokoro, *t.*, 520
Gonsalvo, *c.*, 513
Good Hope, Cape of, 513
Goomtee, *r.*, 481
Gorcum, *t.*, 220
Goree, *i.*, 550
Gorges, 17
Goritty, *p.*, 88
Gorizia, *t.*, 371
Görlitz, *t.*, 293
Görz, *t.*, 371
Gotha, *t.*, 275
Gotha, *r.*, 437
Gothard, St., *m*, 49
Gothard, *p.*, 202
Gothenburg, *t.*, 437
Gothland, *i.*, 457
Goths, 52
Göttingen, 275
Gouli, *m.*, 525
Goujilah, *t.*, 542
Goulja, *t.*, 504
Gouraya, *m.*, 537
Gournah, *t.*, 522
Government, 33
Governolo, *t.*, 364
Graian Alps, 174, 176
Graciosa, *i.*, 102
Grácios a Dios, *c.*, 564
Gradisca, *t.*, 326, 371
Grain Coast, 551-2
Grampians, *m.*, 443
Gran, *t.*, 318
Granada, *pr.*, 65
Granada, *t.*, 69
Granada, New, *rep.*, 586
Grand Bourg, *i.*, 616
Grand Camp, *b.*, 152
Grand Canal, 454
Grande, *r.*, 550, 592
Grande del Norte, *r.*, 596
Grande Terre, *i.*, 616
Grandlieu, *l.*, 146
Grandpré, *p.*, 150
Grandpré, *t.*, 166
Grandreng, *t.*, 225
Granicus, *t.*, 499
Granson, *t.*, 209
Granville, *t.*, 154
Grao, *t.*, 96
Gratiot, *f.*, 610
Grätz, *t.*, 325
Graudenz, *t.*, 296
Grave, *t.*, 223
Gravelines, *t.*, 234, 235, 239
Gray, *t.*, 187
Great Britain, statistics, 454
Great Island, 453
Great Slave Lake, 613
Gredos, *m.*, 74
Greece, statistics, 408
Greek Region, 389
Greenland, 613
Greenock, *t.*, 451
Greenwich, *t.*, 447
Gregory, St., *f.*, 538
Greiffensee, *l.*, 207
Grein, *t.*, 316
Grenada, *i.*, 615
Grenadines, *is.*, 615
Grennah, *t.*, 527
Grenoble, *t.*, 191
Greytown, *t.*, 595
Grimaud, *b.*, 180
Grimsel, *p.*, 174
Griquas, *peop.*, 555
Grisons Alps, 202, 260
Grisons, *canton*, 265
Grodno, *t.*, 427
Groix, *i.*, 141
Groningen, *pr.*, 272
Groningen, *t.*, 270
Gross Beeren, *t.*, 287
Gross Glockner, *m.*, 300
Grosswardein, *t.*, 325
Groups of hills, 12
Guadajoz, *r.*, 65
Guadalajara, *t.*, 592
Guadalaviar, *r.*, 95
Guadalaxara, *t.*, 77
Guadalete, *r.*, 68
Guadalimar, *r.*, 69
Guadalquivir, basin of, 66
Guadalquivir, *r.*, 68
Guadalupe, *m.*, 70
Guadalupe, *r.*, 97
Guadarmena, *r.*, 69
Guadarrama, *m.*, 74
Guadarrama, *r.*, 77
Guadeloupe, *i.*, 616
Guadiana, basin of, 70
Guadiana, *r.*, 71
Guadiana, Ojos de, 71
Guadiaro, *r.*, 65
Guadiel, *r.*, 69
Guajan, *i.*, 510
Guamanga, *t.*, 582
Guanabani, *i.*, 620
Guanajuato, *t.*, 592
Guanches, *peop.*, 562
Guapay, *r.*, 583
Guapore, *r.*, 583
Guardafui, *c.*, 513
Guardia, *f.*, 84
Guastalla, *t.*, 351
Guatemala, *t.*, 591
Guatemala, *rep.*, 597
Guaviare, *r.*, 585
Guayaquil, *t.*, 589
Guaymas, *t.*, 592
Guayra, La, *t.*, 587
Guelma, *t.*, 539
Gueret, *t.*, 145
Guerigny, *t.*, 146
Guernsey, *i.*, 152
Guerrara, *t.*, 545
Guiana, Nueva, *t.*, 584
Guiana Vieja, *t.*, 584
Guiana, British, 586
Guiana, Dutch, 586

Guiana, French, 586
Guiers, *r.*, 191
Guil, *r.*, 194
Guinea, Gulf of, 37, 513
Guinea, New, country, 552
Guinea, South, 554
Guinegate, *t.*, 230
Guipuscoa, *pr.*, 89
Guise, *t.*, 166
Guizanne, *r.*, 192
Gulfs, 6
Gulf-stream, 27, 564
Gumbinen, *t.*, 426
Gumri, *t.*, 502
Gunz, *r.*, 309
Günzburg, *t.*, 305
Gurupa, *t.*, 583
Gustaf's Svœrd, *f.*, 430
Gustafsvœrn, *f.*, 431
Guttstadt, *t.*, 427
Gwalior, *t.*, 482
Gyzeh, *t.*, 522

H.

Haarlem, *t.*, 271
Habrah, *r.*, 542
Hachem country, 542
Hadramaut, *pr.*, 492
Hague, *t.*, 271
Hague, La, *c.*, 152
Haguenau, *t.*, 216, 243, 244
Haiman, *i.*, 455, 469
Hainault, *pr.*, 236
Haisne, *r.*, 230
Hala, *m.*, 476
Halifax, *t.*, 609
Hall, *t.*, 266, 312
Halle, *t.*, 284
Halmstad, *t.*, 437
Haltern, *t.*, 269
Ham, *t.*, 169
Hamadan, *t.*, 489
Hamath, *t.*, 496
Hamburg, *t.*, 283, 288
Hameln, *t.*, 274
Hami, *oasis*, 504
Hammamet, *t.*, 531
Hammerfest, *t.*, 439
Hamon, *is.*, 511
Hampton roads, 603
Hanau, *t.*, 267
Hangchau, *t.*, 471
Hang-Keang, *r.*, 470
Hango Udd roads, 431
Hanover, *pr.*, 272, 275, 288
Hanover, *t.*, 275
Hapsburg, *castle*, 270
Harach, *r.*, 541
Harbour, *b.*, 419
Harbours, 6
Harbourg, *f.*, 153
Harburg, *t.*, 283
Hardt, *m.*, 203
Harlingen, *t.*, 272
Haro, *t.*, 96
Harran, *t.*, 490
Harrisburg, *t.*, 605
Hartfell, *m.*, 451
Harudje desert, 527
Harz, *m.*, 273
Harwich, *t.*, 448
Hase, *r.*, 270
Haskuru, *m.*, 530
Hastembeck, *c.*, 274
Hastings, *t.*, 446
Hausrück, *m.*, 300
Haute Joux, *m.*, 138
Hauterive, *t.*, 130
Havana, *t.*, 620
Havel, *r.*, 286
Havelberg, *t.*, 287
Havre, Le, *t.*, 155
Hawaï, *i.*, 510
Hawash, *r.*, 526
Haye, La, *t.*, 145
Hayti, *f.*, 618
Hebrides, *i.*, 451
Hecla, *m.*, 514
Hedemora mines, 436
Hedjaz, *pr.*, 492
Heidelberg, *t.*, 266
Heilbronn, *t.*, 266
Heilsberg, *t.*, 427
Helder, *t.*, 272
Helena, St., *i.*, 513, 561
Helga, *r.*, 437
Helicon, *m.*, 391
Helier, St., *t.*, 152
Heligoland, *i.*, 282
Hellada, *r.*, 404
Hellenic Alps, 390
Hellette, *t.*, 122
Hellevoetsluys, *t.*, 223
Helmund, *r.*, 489
Helpe, Great, *r.*, 225
Helsingborg, *t.*, 437
Helsingfors, *t.*, 430
Helsingor, *t.*, 289
Helvetic Alps, 173, 202
Helvetic Confederation, statistics, 245
Hems, *t.*, 496
Henarez, *r.*, 77
Hennebon, *t.*, 147
Henri, *f.*, 619
Heraclea, *ruins*, 380
Herat, *t.*, 489
Herault, *r.*, 182
Herault, *dep.*, 196
Hercules, Pillars of, 46
Herjas, *r.*, 78
Hermanstadt, *t.*, 331
Hernath, *r.*, 324
Herstal, *t.*, 223
Hertogenbosch, *t.*, 226
Herzegovina, *pr.*, 400
Hesdin, *t.*, 170, 240
Hesperia, 58
Hesse Cassel, *pr.*, 275
Hesse Darmstadt, *gr. duc.*, 219, 269
Heve, La, *c.*, 152
Hibernia, 440
High tide, 26
Hildburghausen, *t.*, 274
Hillah, *t.*, 490
Hills, 12
Himalayas, *m.*, 475
Himera, *t.*, 388
Hindoo Koosh, *m.*, 475
Hindustan, *pn.*, 456
Hippolyte, St., *t.*, 189
Hippo Regius, *t.*, 536
Hirshova, *t.*, 330
Hispania, 58
Hoang Ho, *r.*, 470
Hobart Town, 512
Hochstedt, *t.*, 305
Hochwald, *m.*, 203
Hochwaldberg, *m.*, 277
Hodna, *plt.*, 530
Hoedic, *i.*, 141
Hof, *t.*, 284
Hohenberg, *m.*, 261
Hohenfriedberg, *t.*, 293
Hohenkirch, *t.*, 287
Hohenlinden, *forest*, 312
Hohenstauffen, *m.* and *castle*, 262

Hohenzollern Hechingen, *pr.*, 269, 314
Hohenzollern Sigmaringen, *pr.*, 269, 314
Hollabrunn, *t.*, 319
Holland, 272
Holland, North, *pr.*, 272
Holland, South, *pr.*, 272
Hollandia, *f.*, 509
Holstein, *pr.*, 289
Holy Roman Empire, 256
Hondschoote, *t.*, 235
Honduras, *g.*, 563
Honduras, *col.*, 597
Honfleur, *t.*, 155
Hong Kong, *i.*, 471
Honolulu, *t.*, 510
Honorat, St., *i.*, 182
Hooglede, *t.*, 231
Hoogly, *r.*, 481
Hooru, *t.*, 272
Horn, *c.*, 564
Horns, 13
Hospenthal, *t.*, 209
Hostalrich, *t.*, 100
Hottentots, *peop.*, 555
Houat, *i.*, 141
Hougue, La, *t.*, 154
Hourquette d'Arreau, *m.*, 117
Hradish, *t.*, 319
Huallaga, *r.*, 582
Huancabelica, *t.*, 582
Hudson, *b.*, 37, 563
Hudson, *st.*, 563
Hudson, *r.*, 606
Huc, *t.*, 472
Huchuetoca, *cl.*, 596
Huelba, *r.*, 69
Huerba, *r.*, 97
Huescar, *m.*, 66
Hull, *t.*, 448
Humber, *r.*, 448
Hundsrücken, *m.*, 203
Hungary, *pr.*, 322, 328
Hungarian counties, 328
Hüningen, *t.*, 213
Hunse, *r.*, 270
Hunte, *r.*, 275
Huntingdon, *t.*, 448
Hurdwar, *t.*, 480
Huron, *l.*, 610
Hurrur, *kgd.*, 559
Husch, *t.*, 331
Hyderabad, *t.*, 483, 486
Hydra, *i.*, 407
Hyères, *is.*, 182
Hythe, *t.*, 446

I.

Iakoutsk, *t.*, 465
Iaroslav, *t.*, 424
Ibañetta, *p.*, 92
Iberi, *peop.*, 52, 61
Iberia, 58
Iberia, Gate of, *p.*, 494
Iberian Hills, 65
Ibiza, *i.*, 101
Ibrail, *t.*, 330
Iceland, *i.*, 564, 613
Iceland, Sea of, 37
Idria, *r.* and *t.*, 371
Idro, *l.*, 363
Iendje Karasu, *r.*, 403
Ienidje, *t.*, 403
Ienik, *t.*, 500
Ienikaleh, *t.*, 420
If, *f.*, 181
If, *i.*, 182
Igbira Panda, *sta.*, 552
Iglawa, *r.*, 319
Ij, *g.*, 272
Ilanz, *t.*, 205
Ildefonso, San, *t.*, 82
Ile Longue, *f.*, 441
Ile Rousse, *f.*, 385
Ilek, *r.*, 425
Ilekskaia, *t.*, 425
Ili, *r.*, 504
Ill, *r.*, 215, 264
Ille, *r.*, 147
Ille et Vilaine, *dep.*, 148, 170
Iller, *r.*, 308
Illimani, *m.*, 580
Illinois, *r.*, 600
Illyria, *pr.*, 391
Ilm, *r.*, 285, 310
Ilmen, *l.*, 429
Ilmenau, *r.*, 286
Ilz, *r.*, 308
Imbro, *i.*, 408
Imirites, *peop.*, 501
Imola, *t.*, 357
Incanale, *t.*, 366
Indian Ocean, 36, 37, 456, 513
Indianopolis, *t.*, 601
Indre, *r.*, 145
Indre, *dep.*, 147
Indre et Loire, *dep.*, 147
Indret, *t.*, 143
Indus, *r.*, 486
Infernet, *m.*, 193
Ingolstadt, *t.*, 306
Ingria, *pr.*, 429
Inhambane, *t.*, 558
Inkerman, *m.*, 419
Inn, *r.*, 312
Innsbruck, *t.*, 312
Innthal, *ms.*, 299
Insterburg, *t.*, 426
Inverness, *t.*, 452
Ionia, *pr.*, 499
Ionian Sea, 47
Ipoly, *r.*, 320
Irati, *r.*, 98
Irawaddy, *r.*, 479
Ireland, 452
Irenée, St., *f.*, 185
Iri, *r.*, 405
Irkutsk, *t.*, 465
Iron Gates, *p.*, 529
Irtisch, *r.*, 464
Irun, *t.*, 89
Isabelle, *f.*, 236
Isac, *r.*, 147
Isar, *r.*, 311
Isakchi, *t.*, 330
Ischia, *i.*, 379
Ischim, *r.*, 464
Iseo, *l.*, 362
Iser, *r.*, 279
Isern, *m.*, 176
Isere, *r.*, 191
Isere, *dep.*, 196
Isigny, *t.*, 156
Isis, *r.*, 447
Isker, *r.*, 331
Islands, 5
Isle, *r.*, 131
Isle of France, 108
Islet à Cabris, *i.*, 616
Islettes, *p.*, 150
Isly, *r.*, 543
Ismail, *t.*, 330
Ismid, *t.*, 500
Isnik, *t.*, 500
Isonzo, *r.*, 371
Ispahan, *t.*, 489
Isser, *r.*, 513

Issoire, *t.*, 144
Issy, *f.*, 159
Isthmus, 6
Istria, *pn.*, 372
Itacolumi, *m.*, 573
Italian region, 336
Italians, 107
Italy, statistics, 389
Itapicuru, *r.*, 581
Iton, *r.*, 162
Ivanov, *l.*, 421
Ivi, *c.*, 536
Ivory Coast, 552
Ivoy, *t.*, 224
Ivrea, *t.*, 358
Ivry, *f.*, 159
Ivry, *t.*, 162

J.

Jablonnoi, *m.*, 463
Jablunkau, *t.*, 294
Jaca, *t.*, 98
Jaen, *pr.*, 69
Jaen, *t.*, 69, 582
Jaffa, *t.*, 496
Jafnapatam, *t.*, 478
Jafra, *m.*, 529, 542
Jago, St., *t.*, 562
Jaik, *r.*, 425
Jalon, *r.*, 97
Jamaica, *i.*, 619
James, *r.*, 603
James Town, 561
Janina, *r.*, 398
Janina, *t.*, 399
Japan, *i.*, 455
Japan Sea, 36, 455
Jargeau, *t.*, 142
Jarnac, *t.*, 135
Jaromirz, *t.*, 278
Jussy, *t.*, 331
Jauer, *t.*, 293
Java, *i.*, 507
Java, Sea of, 36
Jaxt, *r.*, 2 6
Jean, St., *f.*, 181, 185
Jean d'Angely, St., *t.*, 136
Jean de Losne, St., *t.*, 187
Jean de Luz, St., *t.*, 120
Jean de Maurienne, St., *t.*, 132
Jean Pied de Port, St., *t.*, 122
Jebel Amour, *m.*, 530
Jebel Barku, *m.*, 530,
Jebel Beni Salah, *m.*, 529
Jebel Bou Kahil, *m.*, 530
Jebel Guerioun, *m.*, 539
Jebel Harra, *m.*, 477
Jebel Ranjaia, *m.*, 530
Jebel Seir, *m.*, 477
Jebel Tamgut, *m.*, 528
Jebel Tessala, *m.*, 529
Jebel Waddan, *m.*, 527
Jebel Zaccar, *m.*, 530
Jebel Zakkar, *m.*, 528
Jefferson, *t.*, 600
Jehosaphat, *v.*, 498
Jelanii, *c.*, 455
Jelalabad, *t.*, 487
Jema Ghazaunt, *t.*, 539
Jemilan, *f.*, 546
Jemmapes, *t.*, 230
Jena, *t.*, 284
Jenne, *t.*, 551
Jeres de la Frontera, *t.*, 68
Jersey, *i.*, 152
Jersoos, *t.*, 499
Jerte, *r.*, 78
Jerusalem, *t.*, 497
Jews, *peop.*, 534
Jhelum, *r.*, 487
Jiddah, *t.*, 493
Jihum, *r.*, 503
Jijelli, *t.*, 536
Jiloca, *r.*, 97
Joaquin, San, *r.*, 593
Joche, 13
Jögondorf, *t.*, 426
Joigny, *t.*, 160
Joinville, *t.*, 163
Joliette, *harbour*, 181
John, St., *r.*, 552, 602, 611
John, St., *l.*, 611
John, St., *i.*, 617
John, St., *t.*, 609
Joliba, *r.*, 551
Jorat, *m.*, 173, 202
Jorhat, *t.*, 482
Jordan, *r.*, 496
Jose, San, *f.*, 565
Josephstadt, *t.*, 278
Joug de l'Aigle, *m.*, 194
Jour country, 520
Joux, *f.*, 189
Joyeuse, *r.*, 122
Juan, *b.*, 180
Juan Fernandez, *i.*, 565
Juan, San, *r.*, 594
Juan, San, *r.*, 618
Juan, San, de Ulloa, *f.*, 596
Jub, *r.*, 558
Jucar, *r.*, 72, 95
Judaism, 31
Judea, *kgd.*, 496
Judenburg, *t.*, 325
Juggernaut, *t.*, 483
Julumerik, *t.*, 491
Julian Alps, 301
Julian, St., *f.*, 77
Julier, *p.*, 260
Juliers, *t.*, 226
Jumna, *r.*, 480, 482
Jungbunzlau, *t.*, 279
Jungfrau, *m.*, 174
Jura, *dep.*, 195
Jura, frontier of, 196
Jura, *m.*, 202
Jurjura, *m.*, 528
Jurumenha, *f.*, 72
Jutland, *pr.*, 289
Jypoon, *r.*, 498

K.

Kabara, *t.*, 551
Kabou, *sta.*, 550
Kabyles, *peop.*, 533
Kaffa, *t.*, 420
Kaffirs, *peop.*, 556
Kaffraria country, 556
Kai Fong, *t.*, 470
Kailak, *r.*, 520
Kairwan, *t.*, 527
Kaisanlik, *t.*, 402
Kaisarieh, *t.*, 496, 450
Kaiserlautern, *t.*, 217
Kalamas, *r.*, 398
Kalamata, *t.*, 405
Kalisch, *t.*, 294
Kalix, *r.*, 436
Kalkas, *peop.*, 504
Kallee Nuddee, *r.*, 482
Kalleenjur, *f.*, 483
Kalouga, *t.*, 424
Kama, *r.*, 425
Kamenetz, *t.*, 415
Kamienieca, *t.*, 415
Kamiesh, *b.*, 420
Kamp, *r.*, 319
Kampen, *t.*, 220
Kamtchatka, *pn.*, 455, 465, 469
Kamtchatka Sea, 36, 455

Kandahar, *t.*, 489
Kandalaskaia, *b.*, 432
Kander, *r.*, 208
Kang Hoa, *t.*, 470
Kano, *t.*, 553
Kansas, *r.*, 600
Kara, *b.*, 455
Kara Su, *r.*, 490
Karabelunia, *t.*, 419
Karakool, *t.*, 503
Karaman, *pr.*, 498
Karausebes, *t.*, 325
Karasu, *r.*, 402
Karaveria, *t.*, 403
Karitona, *t.*, 405
Karlsburg, *t.*, 325
Karlstadt, *t.*, 326
Karnak, *t.*, 522
Karrous, 18, 555
Kars, *t.*, 502
Karvathi, *t.*, 405
Kasan, *t.*, 424
Kashgar, *t.*, 504
Kasso, *sta.*, 549
Kassoumba, *m.*, 506
Kastamouni, *pr.*, 498
Kastamuni, *t.*, 498
Kastoria, *t.*, 403
Katcha, *r.*, 418
Katiff, El, *t.*, 492
Katschanik, *t.*, 403
Kattwar, *pn.*, 485
Katunga, *t.*, 551
Katwijk, *t.*, 221
Katzbach, *r.*, 293
Kaub, *t.*, 215
Kavak, *f.*, 400
Keburiah, *m.*, 529
Keft, *t.*, 522
Kehl, *t.*, 213
Kelat, *t.*, 489
Kelluf, *m.*, 530
Kelso, *t.*, 451
Kelts, *peop.*, 52
Kempten, *t.*, 308
Kenia, *m.*, 520
Kennch, *t.*, 522
Kentucky, *r.*, 601
Kerasun, *t.*, 500
Kerkhah, *r.*, 491
Kermanshah, *t.*, 491
Kernicza, *m.*, 301
Kerry, *c.*, 454
Kertch, *t.*, 420
Kerulun, *r.*, 469
Keshin, *t.*, 492
Ke-sho, *t.*, 472
Khabs, *b.*, 47, 514
Khabs, *t.*, 531
Khabur, *r.*, 490
Khainon, *b.*, 432
Khartoum, *t.*, 521
Khatmandoo, *t.*, 481, 483
Khelif, *r.*, 541
Kherson, *t.*, 416
Khersonese, *c.*, 420
Khingan, *m.*, 465
Khiva, *t.*, 503
Khojent, *t.*, 503
Khokan, *t.*, 503
Khoten, *t.*, 504
Khotine, *t.*, 415
Khyber, *p.*, 487
Kiakta, *t.*, 465
Kiel, *t.*, 289
Kiev, *t.*, 416
Kilia, *t.*, 330
Kilid Bahr, *f.*, 401
Kilimanjuro, *m.*, 520
Killala, *b.*, 454
Kimris, *peop.*, 52
Kinburn, *f.*, 417
Kingston, *t.*, 610
Kingstown, *t.*, 453, 619
Kinsale, *t.*, 453
Kinzig, *r.*, 265, 267
Kirghis, *peop.*, 464
Kis Derbend, *p.*, 402
Kishon, *r.*, 497
Kissingen, *t.*, 267
Kissovo, *m.*, 403
Kitsnah, *r.*, 483
Kitts, St., *is.*, 617
Kitzingen, *t.*, 267
Kiusiu, *i.*, 468
Kizil Ermak, *r.*, 500
Klagenfurth, *t.*, 325
Klausenburg, *t.*, 324
Kleissoura, *t.*, 398
Klón, *v.*, 210
Klostercamp, *t.*, 215
Klosterneuburg, *t.*, 317
Kloster Zeven, *t.*, 286
Klundert, *t.*, 226
Klutcherskaia, *m.*, 465
Kniegnass, *f.*, 309
Knolls, 13
Kocher, *r.*, 266
Kodiak, *is.*, 556
Kokca, *m.*, 434
Kokonor, *m.*, 456, 466
Kokorro, *r.*, 549
Kollin, *t.*, 278
Köln, *t.*, 215
Kolocza, *r.*, 424
Kolomna, *t.*, 424
Kolosvar, *t.*, 324
Kolouglis, *peop.*, 534
Kolyvan, *m.*, 463
Kolyvan, *t.*, 464
Komoru, *t.*, 318
Kong, *m.*, 552
Kongsvinger, *t.*, 438
Konieh, *t.*, 500
Königgratz, *t.*, 278
Königinhof, *t.*, 278
Königsberg, *t.*, 426
Konigstein, *t.*, 282
Koptagh, *m.*, 476
Koruns, *peop.*, 555
Kordofan, *pr.*, 521
Korna, *t.*, 490
Koron, *t.*, 405
Körös, *r.*, 324
Kosas, *peop.*, 556
Kosel, *t.*, 292
Kösen, *t.*, 284
Koslov, *t.*, 419
Kossova, *pln.*, 327
Kostanicz, *t.*, 402
Kostroma, *t.*, 424
Kotline, *i.*, 431
Koudavendguiar, *pr.*, 4. 8
Koum Kalessi, *f.*, 401
Kour, *r.*, 502
Koutais, *t.*, 501
Kovno, *t.*, 427
Kowaik, *r.*, 498
Kragojevacz, *t.*, 327
Krasnoi, *t.*, 416
Krasnoiarsk, *t.*, 464
Kraul, 424
Kremnitz, *t.*, 320
Krems, *t.*, 317
Kreuznach, *t.*, 217
Krishna, *r.*, 483
Kromborg, *f.*, 290
Kronstadt, *t.*, 331
Krossen, *t.*, 292, 293
Kruischans, *f.*, 229
Kruschevacz, *t.*, 327
Kssours country, 533
Kuban, *r.* and *l.*, 422
Kubinsk, *l.*, 432
Kuenlun, *m.*, 466

Kufstein, *t.*, 312
Kulpa, *r.*, 326
Kulun, *l.*, 470
Kumassi, *t.*, 552
Kuka, *t.*, 553
Kunersdorf, *t.*, 292
Kurds, *peop.*, 491
Kurile Sea, 36
Kuriles, *i.*, 455, 467
Kurnaul, *t.*, 482
Kurrachee, *t.*, 486
Kustrin, *t.*, 292
Kutaieh, *t.*, 500
Kwangchau-Foo, *t.*, 471

L.

Laaland, *i.*, 290
Labrador, *pn.*, 564, 609
Labuan, *i.*, 508
Laccadives, *i.*, 456, 479
Lachsa, *pr.*, 492
Lachsa, *t.*, 492
Laconia, *pr.*, 392, 405
Lacroix, *f.*, 141
Ladak country, 486
Ladenburg, *t.*, 266
Ladoga, *l.*, 429
Ladrones, *is.*, 510
Lafayette, *f.*, 606
Lafere, *t.*, 242
Lagarde, *f.*, 117
Lagny, *t.*, 164
Lagoons, 350
Lagos, *t.*, 71, 553
Lagos, *b.*, 401
Lahn, *r.*, 268
Lahore, *t.*, 487
Lalla Maghrnia, *f.*, 543
Lamalgue, *f.*, 181
Lambach, *t.*, 320
Lambessa, *t.*, 540
Lambro, *r.*, 304
Lamo, *t.*, 558
Lancaster, *b.*, 449
Lancaster Sound, 564
Landau, *t.*, 217, 244
Landeck, *t.*, 312
Landes, *dep.*, 123, 131
Landquart, *r.*, 264
Landrecies, *t.*, 224, 240, 241
Landriano, *t.*, 361
Lands, 8
Landsberg, *t.*, 309
Land's End, *c.*, 445
Landshut, *t.*, 293, 311
Landskrona, *t.*, 437
Langeb, *m.*, 519
Langensalza, *t.*, 285
Langfield, *m.*, 434
Langres, *plt.*, 149, 204
Langres, *t.*, 163
Lanveoc, *f.*, 141
Lanzarote, *i.*, 562
Laon, *t.*, 167, 242
Laos, *kgd.*, 473
Lapland, 433
Larissa, *t.*, 403
Larnaka, *t.*, 495
Lasnes, *r.*, 232
Lassa, *t.*, 481
Latakia, *t.*, 496
Latte, La, *f.*, 153
Lauenburg, *t.*, 283
Lauenburg, *duc.*, 288
Lauffenburg, *t.*, 207
Laupen, *t.*, 208
Laurent, St., *t.*, 194
Laurent, St., de la Cerda, *t.*, 117
Lauricocha, *l.*, 581
Lausanne, *t.*, 184
Lauturet, *p.*, 177
Lauter, *r.*, 216
Lauterbourg, *t.*, 216, 243, 244
Lauwer, *r.*, 270
Lauwerzee, *g.*, 270
Laval, *t.*, 146
Lavaur, *t.*, 130
Laveno, *t.*, 359
Lavis, *r.*, 365
Lawe, *r.*, 231
Lawfeld, *t.*, 226, 232
Lawrence, St., *g.*, 563
Lawrence, St., *tusin*, 608
Lawrence, St., *r.*, 610
Laws, 13
Lay, *r.*, 136
Layoach, *t.*, 326
Lebanon, *m.*, 476
Lecco, *l.*, 361
Lech, *r.*, 309
Leek, *r.*, 221
Lectoure, *t.*, 129
Lecumberry, *p.*, 92
Leeds, *t.*, 448
Leeward Islands, 616
Leghorn, *t.*, 377
Legislative power, 33
Legnago, *t.*, 367
Legué, *t.*, 153
Leine, *r.*, 275
Leipzig, *t.*, 285
Leith, *t.*, 451
Leitha, *r.*, 321
Leman, *l.*, 184
Lemberg, *t.*, 297
Lemme, *r.*, 355
Lens, *t.*, 231, 239
Leoben, *t.*, 325
Leogane, *t.*, 619
Leon, *t.*, 68, 83
Leon, *pr.*, 85
Leon, *t.*, 592, 594
Leon, Isla de, 67
Leondari, *t.*, 406
Leopoldstadt, *t.*, 320
Lepanto, *g.*, 397
Lepanto, *t.*, 400
Lepel, *t.*, 428
Lepontian Alps, 200
Leptis Magna, *t.*, 528
Lerida, *t.*, 98
Lerins, *i.*, 182
Lers, *r.*, 130
Lesghis, *peop.*, 423
Lesina, *t.*, 396
Lesinian, *ms.*, 348
Lesmont, *t.*, 162
Lette, *r.*, 167
Leucate, *l.*, 120
Leuk, *t.*, 183
Leuthen, *t.*, 293
Levant, *i.*, 182
Leven, *r.*, 450
Levezou, *m.*, 124
Lewis, *r.*, 593
Leyden, *t.*, 221
Lez, *r.*, 183
Liberia, *sta.*, 550
Libourne, *t.*, 130
Lichtenberg, *t.*, 216, 243
Lichtenstein, *prin.*, 265
Lido, *port*, 370
Liebstadt, *t.*, 426
Liefkenshoek, *f.*, 229
Liege, *t.*, 222
Liege, *pr.*, 236
Liegnitz, *t.*, 293
Lienz, *t.*, 325

Lier, *t.*, 232
Liffey, *r.*, 453
Lignon, *r.*, 144
Ligny, *t.*, 225
Ligurian Republic, 375
Lille, *t.*, 231
Lillo, *f.*, 229
Lilybæum, *t.*, 387
Lima, *t.*, 589
Limagne, plain of, 144
Liman, 417
Limbourg, *pr.*, 236
Limbourg, *t.*, 225
Limerick, *t.*, 554
Limmat, *r.*, 210
Limoges, *t.*, 145
Limonest, *f.*, 188
Limousin, *m.*, 125
Limoux, *t.*, 120
Lincoln, *t.*, 448
Lindenau, *t.*, 285
Lindesnæs, *c.*, 434
Line, troops of the, 35
Linkœping, *t.*, 437
Linth, *r.*, 210
Linz, *t.*, 316
Lion, *p.*, 74
Lion, *m.*, 556
Lipari, *is.*, 386
Lippe, *r.*, 269
Lippe Detmold, *prin.*, 275
Lippe Schauenburg, *prin.*, 275
Lippstadt, *t.*, 269
Liri, *r.*, 379
Lisbon, *t.*, 76, 77
Lisieux, *t.*, 156
Lissa, *i.*, 396
Lissa, *t.*, 293
Lithuania, *pr.*, 428
Littawa, *r.*, 319
Littoral, *pr.*, 372
Livadia, *t.*, 404
Livenza, *r.*, 370
Liverpool, *t.*, 450
Livno, *t.*, 396
Livonia, *pr.*, 428, 429
Lizard, *c.*, 445
Lizy, *t.*, 164
Llanos, 18
Llinas, *t.*, 100
Llobregat, *r.*, 99, 100
Lo, St., *t.*, 156
Loanda, *t.*, 555
Loango country, 554
Loano, *t.*, 182
Lob, *oasis* and *l.*, 504
Lobau, *i.*, 317
Loch, *f.*, 140
Loches, *t.*, 145
Locri Opuntii, 391
Locri Ozolæ, 391
Lodi, *t.*, 362
Loffoden, *i.*, 439
Logrono, *t.*, 96
Loing, *r.*, 161
Loir, *r.*, 147
Loir et Cher, *dep.*, 147
Loire, *basin*, 137
Loire, *r.*, 142
Loire, *dep.*, 147
Loire, Upper, *dep.*, 147
Loire, Lower, *dep.*, 147
Loiret, *dep.*, 147
Loiret, *r.*, 144
Loja, *t.*, 69
Loma, *m.*, 551
Lombardy, *pr.*, 372
Lombez, *t.*, 129
Lomittau, *t.*, 426
Lonato, *m.*, 363
London, *t.*, 447
Londonderry, *t.*, 453
Long Island, 606
Longet, *m.*, 178
Longwood House, 561
Longwy, *t.*, 224, 242
Lons le Saulnier, *t.*, 190
Loo-Choo, *is.*, 455, 469
Loodiana, *t.*, 487
Loony, *r.*, 487.
Loop, *c.*, 454
Lopez, *c.*, 513
Loquel tas, *f.*, 140
Lorenz, San, *t.*, 100
Lorenzo, San, *pln.*, 591
Loreto, *t.*, 382
Lorient, *t.*, 140
Lorraine, *pr.*, 107
Losne, St. Jean de, *t.*, 187
Losnicza, *t.*, 326
Lot, *r.*, 130
Lot, *dep.*, 131
Lot et Garonne, *dep.*, 131
Lotharingia, *pr.*, 107
Loue, *r.*, 190
Loueche, *t.*, 183
Louis, *f.*, 234
Louis, St., *f.*, 181, 615
Louis, St., *t.*, 599
Louis, St., *i.*, 549
Louis, St., *r.*, 609
Louis, Port, *t.*, 140
Louisburg, *t.*, 609
Louisinde, *i.*, 512
Louja, *r.*, 424
Lourdes, *t.*, 122
Lousaa, *m.*, 75
Louvain, *t.*, 232
Louviers, *t.*, 162
Lovisa, *t.*, 430
Low tide, 26
Lowicz, *t.*, 296
Lowositz, *t.*, 278
Lowther, *m.*, 450
Loyasse, *f.*, 185
Lozere, *m.*, 124, 130
Lozere, *dep.*, 131
Luabo, *t.*, 558
Lübeck, *t.*, 289
Lublin, *t.*, 297
Lucar de Barameda, San, *t.*, 68
Lucas, San, *c.*, 565
Lucca, *t.*, 376
Lucia, Sta., *i.*, 615
Lucknow, *t.*, 481
Luçon, *t.*, 136
Ludwig, *cl.*, 308
Ludwigsburg, *t.*, 266
Luenya, *r.*, 557
Lugo, *t.*, 84, 357
Luis, San, *t.*, 581
Luis, San, *f.*, 67
Lulea, *r.*, 436
Luneburg, *t.*, 286
Luneville, *t.*, 218
Lungeu, *m.*, 201
Lupata, *defile*, 557
Lupin, *f.*, 135
Lure, *t.*, 189
Lusatian Mountains, 277
Luschnitz, *r.*, 279
Lusitania, 51
Lutherans, 31
Lutzen, *t.*, 285
Luxemburg, *t.*, 218, 219, 243
Luxor, *t.*, 522
Luy de Bearn, *r.*, 122
Luy de France, *r.*, 122
Luye, *r.*, 194

Luzern, *l.* and *t.*, 209
Luziensteig, *t.*, 206
Luzon, *i.*, 509
Luzzara, *t.*, 351
Lycia, *pr.*, 498
Lydia, *pr.*, 498
Lynn Regis, *t.*, 448
Lyonnais, *ms.*, 138
Lyons, *t.*, 185
Lyons, Gulf of, 47
Lys, *r.*, 230

M.

Maas, *r.*, 223
Macao, *t.*, 471
Macapa, *t.*, 582
Macassars *peop.*, 508
Macedonia, *kgd.*, 391
Macello, *t.*, 358
Machecoul, *t.*, 136
M'Henry, *f.*, 605
Machichaco, *c.*, 87
Macieowice, *t.*, 296
Mackenzie, *r.*, 613
Mackinaw, *f*, 610
Macon, *t.*, 188
Macta, *r.*, 542
Madagascar, *i.*, 513, 559
Maddalena, *f.*, 386
Madeira, *is.*, 513, 562
Madeira, *r.*, 583
Madera, *r.*, 95
Madieh, *l.*, 523
Madras, *t.*, 484
Madrid, *t.*, 77
Madura, *i.*, 508
Maelar, *l.*, 436
Maelström, *whirlpool*, 439
Maese, *r.*, 223
Maeseyck, *t.*, 223
Maestricht, *t.*, 223
Magadoxo country, 558
Magdeburg, *t.*, 283
Magellan, *st.*, 37, 571
Magenta, *t.*, 360
Maggiore, *l.*, 359
Maglaj, *f.*, 326
Magnano, *t.*, 366
Magra, *r.*, 376
Mahanudee, *r.*, 483
Mahe, *t.*, 485
Mahe, *i.*, 559
Mahmoudy, *el.*, 523
Mahometanism, 31
Mahon, *t.*, 102
Mährischegebirge, *m.*, 276
Mahuna, *m.*, 529
Main, *r.*, 267
Maine, *r.*, 146
Maine et Loire, *dep.*, 147
Maintenon, *t.*, 162
Mainz, *t.*, 214, 243
Maira, *r.*, 353, 361
Maison Carrée, *f.*, 537, 541
Majico Sima, *i.*, 469
Majorca, *i.*, 101
Makdishu country, 558
Ma-Kiang, *r.*, 472
Makololo, *peop.*, 557
Malabar coast, 484
Malacca, *pn.*, 455, 472, 479
Malacca, *t.*, 479
Maladetta, *m.*, 91
Malaga, *t.*, 65
Malakoff, *f.*, 420
Malamocco harbour, 370
Malatia, *t.*, 490
Malbousquet, *f.*, 181
Maldives, *i.*, 456, 479
Malemba, *t.*, 554
Malghera, *f.*, 370
Malin, *c.*, 453
Malines, *t.*, 232
Malo, St., *t.*, 153
Malo, St., *b.*, 151
Maloggia or Maloia, *m.*, 49
Malojaroslavetz, *t.*, 424
Malouas, *kgd.*, 554
Malouines, *is.*, 571
Maloya or Maloia, *p.*, 299
Malplaquet, *t.*, 230
Malta, *i.*, 388
Mamed, San, *m.*, 70, 84
Mamelukes, *peop.*, 527
Mamore, *r.*, 583
Man, *i.*, 450
Man, 28, 32
Managua, *l.*, 594
Manaos, *t.*, 582, 583
Mançanarez, *r.*, 77
Mancha, La, *pr.*, 73
Manche, *dep.*, 170
Manchester, *t.*, 450
Mandelay, *t.*, 479
Mandels, *r.*, 231
Mandigoes, *peop.*, 549
Manfalout, *t.*, 522
Mangalore, *t.*, 485
Mangrooes, 581
Manhattan, *i.*, 606
Manila, *t.*, 509
Mannheim, *t.*, 214, 266
Manol, *r.*, 100
Mans, Le, *t.*, 147
Manseriche, *rapids*, 582
Manso, *pln.*, 576
Mansourah, *t.*, 523
Mantaro, *r.*, 582
Mantchouria, *pr.*, 472
Mantes, *t.*, 160
Mantua, *t.*, 364
Manusarowar, *l.*, 486
Maracaibo, *t.*, 587
Marais, 137
Marajao, *i.*, 581
Marajo, *i.*, 581, 582
Maranhas, *i.*, 581
Marañon, *r.*, 581
Marañon, *basin*, 579
Marans, *t.*, 136
Marburg, *t.*, 268, 325
Marcaria, *t.*, 363
March, *r.*, 319
Marchfeld, *pln.*, 318
Marchiennes, *t.*, 225, 230, 239
Marcouf, *i.*, 152
Marcq, *r.*, 231
Mardick, *t.*, 235
Mardin, *t.*, 490
Marecchia, *r.*, 382
Maremma, *marsh*, 377
Marengo, *t.*, 354
Marennes, *t.*, 135
Margarita, *i.*, 614
Margeride, *m.*, 124
Marguerite, St., *i.*, 182
Maria, *t.*, 97
Maria, Sta., *c.*, 71
Mariane, *i.*, 510
Mariazell, *t.*, 321
Marie, Ste., *f.*, 228
Marie, Sta, *i.*, 560
Marie Galante, *i.*, 616
Marienbourg, *t.*, 224
Marienthal, *t.*, 267
Marienwerder, *t.*, 296
Marietta, *t.*, 600

Marigot, *t.*, 617
Marignan, *t.*, 361
Marine, *f.* 537
Marino, San, *t.*, 382
Mariout, *l.*, 523
Marisma, *district*, 68
Maritime Alps, 175
Maritza, *r.*, 402
Mark, *r.*, 226
Marmande, *t.*, 128
Marmara, Sea of, 47
Marmolata, *m.*, 301, 348
Marne, *r.*, 163
Marne, *dep.*, 170
Marne, Upper, *dep.*, 170
Maroggia, *r.*, 378
Maroni, *r.*, 584
Maronites, *peop.*, 495
Maros, *r.*, 325
Marquesas, *is.*, 510
Mars, St., *t.*, 145
Marsaille, *t.*, 358
Marsal, *t.*, 218, 243
Marsala, *t.*, 387
Marseilles, *t.*, 180
Marta, *r.*, 377
Marta, Sta., *t.*, 587
Martaban, *t.*, 479
Martigny, *t.*, 183
Martigues, *t.*, 180
Martin, San, *c.*, 94
Martin, St., *canal*, 164
Martin, St., *t.*, 134
Martin, St., *i.*, 617
Martinique, *i.*, 615
Martino, San, *t.*, 377
Martray, *f.*, 134
Marvao, *t.*, 77
Mary, St., *i.*, 102
Mas d'Eu, *t.*, 118
Mascala, *t.*, 592
Mascara, *m.*, 529
Mascara, *t.*, 542
Masius, *r.*, 490
Mass of hills, 12
Massane, *p.*, 93
Massangano, *f.*, 555
Massapa, *f.*, 557
Massilia, *t.*, 106
Massowah, *t.*, 525
Mastmai, *t.*, 468
Masulipatam, *t.*, 483
Matamoras, *t.*, 596
Matanzas, *t.*, 620
Matarieh, *t.*, 523
Mataro, *t.*, 95
Mati, *r*, 398
Matifou, *c.*, 536
Matifou, *f.*, 537
Matterhorn, *m.*, 175
Matthew, St., *c.* 140
Maubeuge, *t.*, 225, 240, 241
Maumusson, St., 133
Maur, St., *f.*, 159
Maura, Sta., *i.*, 406
Maures, *m.*, 179
Maurienne Alps, 177, 178
Mauritius, *i.*, 513, 561
Mautern, *t.*, 317
Mavropotamos, *r.*, 399
Maxen, *t.*, 283
Maya, *p.*, 88, 92
Maye, *r.*, 169
Mayence, *t.*, 214, 243
Mayenfeld, *t.*, 206
Mayenne, *r.* and *t.*, 146
Mayenne, *dep.*, 147
Mayotta, *i.*, 559
Mayumba, *r.*, 554
Mazafran, *r.*, 541
Mazaga country, 524
Mazagran, *t.*, 538
Mazangaye, *t.*, 560
Mazzara, *t.*, 387
Meaux, *t.*, 164
Mecklinburg Schwerin, *gr. duc.*, 294
Mecklinburg Strelitz, *gr. duc.*, 294
Mecca, *t.*, 492
Mechlin, *t.*, 232
Medeah, *t.*, 542
Medellin, *t.*, 71
Medenblick, *t.*, 272
Medina, *t.*, 493
Medina-de-Rio-Seco, *t.*, 83
Medinet el Faioum, *t.*, 522
Mediterranean Sea, 6, 37, 46, 456, 514
Mediterranean, Lower, 47
Mediterranean watershed, 170
Medoc, *f.*, 129
Medway, *r.*, 427
Meeruj, *t.*, 483
Meerut, *t.*, 482
Megalo Kastron, *t.*, 407
Megara, *pr.*, 392
Megara, *t.*, 404
Meiningen, *t.*, 274
Meissen, *t.*, 283
Mejana, *plt.*, 530
Mejerdah, *r.*, 539
Mejuna, *m.*, 529
Melazghird, *t.*, 490
Melbourne, *t.*, 512
Meleda, *i.*, 396
Melegnano, *t.*, 361
Melfi, *t.*, 381
Melghirgh, *l.*, 545
Melinda, *t.*, 558
Mella, *r.*, 363
Millinkes, *peop.*, 549
Melnick, *t.*, 278
Melun, *t.*, 157
Memel, *t.*, 427
Memmingen, *t.*, 308
Memphis, *t.*, 522, 599
Menam, *r.*, 472
Menangkabou, *kgd.*, 507
Mendana, *i.*, 510
Mende, *t.*, 130
Mendere, *r.*, 499
Mendocino, *c.*, 565
Menebrét, *m.*, 139
Menehould, Ste., *t.*, 166
Menez, *m.*, 139
Menhallet, *t.*, 523
Menin, *t.*, 230, 239, 240
Menou, *f.*, 141
Menoudje, *cl.*, 523
Mentana, *t.*, 377
Mentz, *t.*, 214, 243
Menzaleh, *l.*, 524
Meppen, *t.*, 270
Mequmenza, *t.*, 96, 98
Meran, *t.*, 365
Merck, *r.*, 226
Mergentheim, *t.*, 267
Mergui, *t.*, 479
Merida, *t.*, 71
Meroë, *kgd.* and *t.*, 521, 525
Merom, *l.*, 497
Merseburg, *t.*, 284
Mers-el-Kebir, *rsd.*, 539
Mersey, *r.*, 449
Mertola, *t.*, 72
Mery, *t.*, 156
Mesina, *sta.*, 551
Mesopotamia, *pr.*, 490

Messenia, *pn.*, 392, 405
Messina, *t.*, 387
Messina, *st.*, 37
Mesurado, *r.*, 550
Meta, *r.*, 585
Metallic Mountains, 277
Metapontus, *ruins*, 380
Metauro, *r.*, 382
Metz, *t.*, 217, 242, 243
Meurthe, *r.*, 218
Meurthe, *dep.*, 219
Meuse, *r.*, 221
Meuse, *dep.*, 236
Meuse, *ms.*, 149, 204
Mexico, *t.*, 596
Mexico, *rep.*, 597
Mexico, *g.*, 37, 563
Mezene, *m.*, 138
Mézieres, *t.*, 222, 241, 242
Mezzovo, *t.*, 399
Miako, *t.*, 468
Michael, St., *i.*, 102
Michael, St., *f.*, 550
Michel, St., *t.*, 325
Michel, Mt. St., *i.*, 153
Michigan, *l.*, 610
Middelburg, *t.*, 229
Middlesborough, *t.*, 448
Midiah, *t.*, 332
Midouze, *r.*, 123
Miglianetto, *f.*, 364
Mihiel, St., *t.*, 222, 242
Milah, *t.*, 540
Milan, *t.*, 360
Milazzo, *t.*, 388
Milford, *t.*, 449
Millau, *t.*, 130
Milianah, *t.*, 542
Mililla, *f.*, 545
Military Frontier, *pr.*, 328
Militia, 35
Milkov, *r.*, 331
Millas, *t.*, 119
Milledgeville, *t.*, 602
Millesimo, *t.*, 355
Milo, *i.*, 407
Mina, *r.*, 542
Minchinmadiva, *m.*, 571
Mincio, *r.*, 363
Mindanao, *i.*, 509
Mindanass, *prop.*, 509
Mindel, *r.*, 309
Minden, *c.*, 143
Minden, *t.*, 274
Mingan, *i.*, 141
Mingan, *f.*, 141
Mingrelians, *peop.*, 501
Minho, *r.*, 84
Minich, *t.*, 522
Minorca, *i.*, 101
Minsk, *t.*, 417
Minturnæ, *ruins*, 379
Miquelon, *i.*, 609
Miraca, *t.*, 496
Miradoux, *f.*, 118
Miranda, *t.*, 82, 96
Mirande, *t.*, 129
Mirandola, *t.*, 357
Mirdites, *peop.*, 398
Mirzapoor, *t.*, 480
Misitra, *t.*; 405
Mississippi, *r.*, 598
Missolonghi, *t.*, 400
Missouri, *r.*, 599
Mitidjah, *pln.*, 537
Mitrahineh, *t.*, 522
Mitrowicz, *t.*, 326
Mittau, *t.*, 428
Mitylene, *i.*, 495
Mizen, *c.*, 453
Mobile, *r.* and *t.*, 601
Möckern, *t.*, 286
Moctezuma, *r.*, 596
Modena, *t.*, 357
Modena, *pr.*, 372
Moder, *r.*, 216
Modlin, *t.*, 296
Modon, *t.*, 405
Moeres district, 235
Mœsia, *pr.*, 249
Mogador, *t.*, 546
Mohacz, *t.*, 324
Mohawk, *r.*, 606
Mohilev, *t.*, 416
Mohrungen, *t.*, 426
Moine, *r.*, 146
Moines, *i.*, 152
Moissac, *t.*, 130
Mocha, *t.*, 492
Moldau, *r.*, 279
Moldavia, *prin.*, 332
Molina, *m.*, 74
Molinella, *r.*, 367
Molins del Rey, *t.*, 99
Mologa, *r.*, 425
Molsheim, *t.*, 216
Moluccas, *i.*, 508
Molwitz, *t.*, 292
Mombaz, *t.*, 558
Mompox, *t.*, 587
Monaco, *t.*, 182
Monastir, *t.*, 403
Moncalieri, *t.*, 350
Moncayo, *m.*, 79
Monchique, *m.*, 70
Moncontour, *t.*, 145
Mondego, *c.*, 81
Mondego, *r.*, 81
Mondonedo, *m.*, 84
Mondovi, *t.*, 354
Monembasia, *t.*, 405
Monfalcone, *t.*, 371
Mongibar, *ford*, 69
Monomotapa, *emp.*, 557
Monongahela, *r.*, 600
Monotheism, 31
Monroe, *f.*, 604
Monrovia, *t.*, 550
Mons, *t.*, 230
Mons en Puelle, *t.*, 231
Monsanto, *f.*, 78
Montaigu, *t.*, 146
Montalvao, *t.*, 76
Montargis, *t.*, 161
Montauban, *t.*, 130
Montbeliard, *t.*, 190
Montbrison, *t.*, 144
Montcalm, *m*, 123
Mont Dauphin, *t.*, 193
Mont de Marsan, *t.*, 123
Mont d'Haurs, *f.*, 222
Montebello, *t.*, 356
Monte Bruno, *p.*, 345
Monte Chiari, *t.*, 363
Montcilla, *p.*, 98
Montelimar, *t.*, 186
Montenegro, *princ.*, 397
Montenotte, *t.*, 355
Monterèau, *t.*, 157
Monterey, *t.*, 593
Monte Santo, *b.*, 401
Montessuy, *f.*, 185
Monte Video, *t.*, 576
Mont Ferrat, *pr.*, 372
Montierender, *t.*, 162
Montjoui, *f.*, 95
Montlouis, *t.*, 118
Montluçon, *t.*, 144
Montmartre, *m.*, 158
Montmedy, *t.*, 224, 242
Montmelian, *t.*, 191
Montmirail, *t.*, 164

Montmorillon, *t.*, 145
Montpellier, *t.*, 183
Montreal, *t.*, 610
Montrejean, *t.*, 129
Montreuil, *t.*, 170, 240
Montrouge, *f.*, 159
Mont St. Jean, *t.*, 232
Montserrat, *i.*, 617
Monza, *t.*, 361
Monzon, *t.*, 99
Mooltan, *t.*, 487
Moors, *peop.*, 533, 547
Moorshedabad, *t.*, 481
Moracca, *r.*, 397
Moradal, *m.*, 78
Moraines, 14
Morat, *l.*, 209
Morava, *r.*, 319, 327
Moravia, *pr.*, 322
Moray Firth, 451
Morbihan, *b.*, 140
Morbihan, *dep.*, 148
Morea, *f.*, 400
Morea, *pr.*, 404
Morella, *t.*, 97
Morena, *m.*, 66
Moresol, *m.*, 138
Morin, Grand, *r.*, 164
Morin, Petit, *r.*, 164
Morlaix, *t.*, 153
Moro, *f.*, 620
Morocco, *emp.*, 545
Mortier, *f.*, 213
Morvan, *m.*, 139
Moselle, *r.*, 217
Moselle, *f.*, 217
Moselle, *dep.*, 219
Moskirch, *t.*, 308
Moskova, *r.*, 424
Moskow, *t.*, 424
Mosquito, *g.*, 571
Mosquitos, *peop.*, 594
Mossburg, *t.*, 311
Mostaganem, *t.*, 538
Mostar, *t.*, 396
Mosul, *t.*, 491
Mota, La, *f.*, 88
Motala, *t.*, 437
Motte, *f.*, 185
Mouchima, *f.*, 555
Moulah, *r.*, 543
Moulins, *t.*, 144
Moulmein, *r.*, 479
Moune, *f.*, 538
Mount Vernon House, 604
Mountain, the, *district*, 495
Mountains, 12
Mourad Chai, *r.*, 490
Mourao, *t.*, 72
Mourello, *f.*, 385
Moustiers, *t.*, 191
Mouzaia, *m.*, 528
Mouzon, *t.*, 222, 242
Moy, *r.*, 454
Mozambano, *t.*, 363
Mozambique, *coast*, 557
Mozambique, *t.*, 558
Mozambique Channel, 513
Mozdok, *t.*, 423
Msila, *t.*, 544
Muela de S. Juan, *m.*, 76
Muffling, *f.*, 605
Muga, *r.*, 100
Mühlberg, *t.*, 283
Mühldorf, *t.*, 312
Muhr, *r.*, 325
Muiden, *t.*, 272
Mukkatem, *m.*, 522
Mulde, *r.*, 284
Mulgrave, *i.*, 510
Mulhacen, *ms.*, 64
Mülhausen, *t.*, 215
Mulhouse, *t.*, 215
Muluya, *r.*, 546
Müncheugrätz, *t.*, 279
Münden, *t.*, 274
Munich, *t.*, 311
Munkacz, *f.*, 324
Münster, *t.*, 270
Muotta, *v.*, 209
Muracci, 350
Murcia, *pr.*, 101
Murcia, *t.*, 95
Muret, *t.*, 127
Murg, *r.*, 265
Murray, *r.*, 512
Murviedro, *t.*, 96
Muscat, *t.*, 492
Muschau, *t.*, 319
Musi, *r.*, 423
Musone, *r.*, 382
Mutzig, *t.*, 216
Mysia, *pr.*, 498
Mythological Pantheism, 30
Mzabs, *tr.*, 545, 547

N.

Naab, *r.*, 308
Naarden, *t.*, 272
Nablous, *t.*, 497
Nador, *r.*, 543
Nagara, *f.*, 401
Nagasaki, *t.*, 468
Nagpoor, *t.*, 483
Nahar Wassel, *r.*, 542
Nahe, *r.*, 217
Nalon, *r.*, 88
Namaquas, *peop.*, 555
Namur, *t.*, 222
Namur, *pr.*, 236
Nancy, *t.*, 218
Nankin, *t.*, 471
Nantes, *t.*, 143
Naples, *t.*, 379
Naples, *pr.*, 382
Napo, *r.*, 583
Napoleon, *f.*, 181, 541
Napoleon Vendée, *t.*, 136
Napoule, *b.*, 180.
Narbonne, *t.*, 120
Narenta, *r.*, 396
Narew, *r.*, 297
Narva, *t.* and *r.*, 429
Narym, *t.*, 461
Nashville, *t.*, 601
Nassau, *pr.*, 270
Nassau, *t.*, 268, 309, 620
Natal, *colony*, 556
Nation, 33
Nauders, *t.*, 312
Naumburg, *t.*, 284
Nauplia, *t.*, 405
Nava, *p.*, 178
Navarino, *t.*, 405
Navarre, *pr.*, 101
Navarreins, *t.*, 122
Navas de Tolosa, *t.*, 69
Navigable rivers, 24
Navigator, *is.*, 511
Naviglio Grande, *cl.*, 360
Naxia, *i.*, 407
Nazaire, St., *t.*, 143
Nazareth, *t.*, 497
Nazareth, *r.*, 554
Naze, *c.*, 434
Neckar, *r.*, 266
Needles, 13
Neerwinden, *t.*, 232
Neethe, *r.*, 232

Negapatnam, *t.*, 484
Negrais, *c.*, 456
Negrepelisse, *t.*, 130
Negro, *c.*, 513
Negro, *r.*, 571, 582, 583
Negropont, *i.* and *t.*, 407
Negropont. *st.*, 401
Neisse, *t.*, 293
Neisse, Glatz, *r.*, 293
Neisse, Görlitz, *r.*, 293
Neisse, Wüthende, *r.*, 293
Nejd, *pr.*, 493
Nellore, *t.*, 484
Nelson, *r.*, 612
Nemours, *t.*, 161, 539
Nepaul, *kgd.*, 481, 483
Nera, *r.*, 378
Nerac, *t.*, 129
Nerbudda, *r.*, 485
Neresheim, *t.*, 307
Nertschinsk, *t.*, 469
Nesque, *r.*, 192
Ness, *r.* and *l.*, 452
Nesse, *r.*, 275
Neste, *r.*, 129
Netherlands, *kgd.*, 237
Netze, *r.*, 294
Neubaiern, *t.*, 312
Neuburg, *t.*, 306
Neueneck, *t.*, 208
Neufchateau, *t.*, 222
Neufchatel, *l.* and *t.*, 209
Neuf Fossé, *cl.*, 234
Neuhausler Donau, *r.*, 318
Neuse, *r.*, 603
Neusiedel, *l.*, 322
Neusohl, *t.*, 320
Neuss, *t.*, 215
Neustadt, *t.*, 306
Neu Strelitz, *t.*, 294
Neustria, *pr.*, 106
Neutra, *r.* and *f.*, 320
Neuwied, *t.*, 215
Neva, *r.*, 429
Nevada, Sierra, *ms.*, 64
Nevada, *sta.*, 592
Nevers, *t.*, 142
Nevis, *i.*, 617
New Britain, *i.*, 512
New Caledonia, *i.*, 511
New Citadel, *f.*, 228
New Guinea, *i.*, 512
New Hebrides, *is.*, 511
New Holland, *i.*, 512
New Ireland, *i.*, 512
New Orleans, *t.*, 599
New South Wales, *pr.*, 512
New Sparta, *i.*, 614
New Zealand, *i.*, 511
Newcastle, *t.*, 448
Newfoundland, *i.*, 564, 609
Newhaven, *t.*, 446
Newport, *t.*, 416, 606
New York, *t.*, 606
Niagara, *r.* and *t.*, 610
Nicæa, *t.*, 500
Nicaragua, *l.*, 594
Nicaragua, *rep.*, 597
Nice, *t.*, 182
Nicholas, *f.*, 419
Nicholas, St., *f.*, 135
Nicholas Mole, St., *t.*, 619
Nicobar, *i.*, 478
Nicolaief, *t.*, 418
Nicolas, St., *f.*, 181
Nicolo, San, *t.*, 407
Nicolo, San, *f.*, 370
Nicopoli, *t.*, 330
Nicopolis, *ruins*, 399
Nicosia, *t.*, 495
Nidda, *r.*, 267
Niel, *r.*, 219
Niemen, *r.*, 427
Nienburg, *t.*, 274
Nieulay, *f.*, 235
Nieuport, *t.*, 236, 239
Nieuwe Diep, *t.*, 272
Nieuweveld, *m.*, 555
Nieuwport, *t.*, 221
Nievre, *r.*, 146
Nievre, *dep.*, 147
Niger, *r.*, 551
Nijni Novgorod, *t.*, 424
Nikolsburg, *t.*, 319
Nile, *r.*, 520
Nilufer, *r.*, 499
Nimburg, *t.*, 279
Nimes, *t.*, 183
Nimroud, *t.*, 491
Nineveh, *t.*, 491
Ningo, *t.*, 553
Niort, *t.*, 136
Niphon, *i.*, 468
Nissa, *t.*, 327
Nissava, *r.*, 327
Nive, *r.*, 122
Nivelle, *r.*, 120
Nizibin, *t.*, 490
Nogat, *r.* and *i.*, 296
Nogent, *f.*, 159
Nogent sur Seine, *t.*, 156
Noguera Pallerese, *r.*, 98
Noguera Ribagorzana, *r.*, 98
Noirmoutiers, *i.*, 134
Noisy, *f.*, 159
Noix, *i.*, 611
Nord, *dep.*, 236
Nordlingen, *t.*, 307
Norfolk, *t.*, 603
Noric Alps, 300
Noricum, *pr.*, 248
Norrkœping, *t.*, 437
North East, *c.*, 455
North Foreland, *c.*, 445
North Fort, 419
North German Confederation, statistics, 334
North Sea, 37, 45
Norway, statistics, 439
Norwegian Sea, 45
Norwich, *t.*, 448
Nos, *r.*, 365
Nossi Be, *i.*, 559
Nottingham, *t.*, 448
Noukahiva, *i.*, 510
Nourse, *r.*, 555
Nouvelle, La, *t*, 120
Nova Berda, *t.*, 327
Novara, *t.*, 359
Novara, *pr.*, 372
Nova Scotia, *pn.*, 564
Nova Scotia, *pr.*, 609
Novaia Zembia, *i.*, 455, 464
Novi, *t.*, 326, 536
Novi Bazar, *t.*, 327
Novgorod, *t.*, 429
Noyelles, *t.*, 169
Noyer, *p.*, 178
Noyers, *t.*, 160
Noyon, *t.*, 166
Nubia, 526
Nuft, *sta.*, 551
Numantia, *t.*, 81
Nun, *r.*, 552
Nürnberg, *t.*, 267
Nurwur, *t.*, 482
Nuthe, *r.*, 287

Nyassa, *l.*, 558
Nymegen, *t.*, 220
Nyons, *t.*, 192

O.

Oajaca, *t.*, 591
Oases, 19
Obi, *r.*, 464
Obi, *l.*, 455
Obiou, *m.*, 178
Oeana, *plains*, 76
Oeca, *m.*, 79
Ocean, 25
Oceania, 37, 505
Oceans, 5. 8
Ochsenkopf, *m.*, 262
Oeker, *r.*, 275, 294
Oczakow, *t.*, 417
Odenwald, *m.*, 263
Oder, *r.*, 292
Oder, *basin*, 291
Odessa, *t.*, 415
Odet, *r.*, 147
Odouze, *m.*, 125
Œland, *i.*, 437
Œsel, *i.*, 431
Œta, *m.*, 404
Oetlingen, *t.*, 307
Ofanto, *r.*, 381
Ofen, *t.*, 323
Ofener, *p.*, 299
Offenburg, *t.*, 265
Oginski, *cl.*, 417
Oglio, *r.*, 362
Ognon, *r.*, 189
Ohio, *r.*, 605
Oise, *r.*, 166
Oise, *dep.*, 170
Oka, *r.*, 424
Okhotsk, Sea of, 36, 455
Okhrida, *l.* and *t.*, 397
Old Citadel, *f.*, 223
Oldenburg, *t.*, 275
Oldenburg, *gr. duc.*, 275
Old Fort, 419
Oldham, *t.*, 450
Oleron, *t.*, 128
Oleron, *i.*, 133
Oleron, *f.*, 133
Olivenza, *f.*, 72
Olives, *m.*, 498
Ollan, *m.*, 177
Olmütz, *t.*, 319
Olona, *r.*, 360
Olonetz, *m.*, 410
Olot, *f.*, 100
Olsa, *r.*, 294
Olteniza, *t.*, 331
Olympus, *m.*, 391, 403
Oman, *pr.*, 492
Ombrone, *r.*, 377
Omer, St., *t.*, 234, 239
Omoa, *t.*, 595
Omsk, *t.*, 464
Omulew, *r.*, 297
Onea, *m.*, 391
Onega, *l.*, 429
Onega, *b.*, 432
Onega, *r.*, 433
Oneglia, *t.*, 182
Onon, *r.*, 469
Ontario, *l.*, 610
Ooch, *t.*, 487
Oporto, *t.*, 81, 82
Oppa, *r.*, 293
Oppeln, *t.*, 292
Oran, *t.*, 538
Orange, *r.*, 555
Orange, *rep.*, 557
Orange, *t.*, 192
Oratepe, *f.*, 503
Orb, *m.*, 124
Orba, *r.*, 355
Orbe, *r.*, 209
Orbitello, *t.*, 377
Orchies, *t.*, 239
Orcullo, *m.*, 122
Oregon, *r.*, 593
Orel, *t.*, 424
Orenburg, *t.*, 425
Orense, *t.*, 84
Orfah, *t.*, 487
Orgullo, *m.*, 88
Orihuela, *t.*, 95
Orinoco, *r.*, 584
Orio, *r.*, 88
Orisson, *t.*, 92
Oristano, *t.*, 386
Orkney, *is.*, 542
Orkney, South, *is.*, 571
Orleans, *t.*, 142
Orleans, *is.*, 611
Orleans, New, *t.*, 599
Orleansville, *t.*, 542
Ormea, *r.*, 354
Ormuz, *t.*, 489.
Ornain, *r.*, 164
Orne, *r.*, 156
Orne, *dep.*, 170
Oro, *m.*, 383
Orsha, *t.*, 416
Orsova, *t.*, 324
Ortegal, *c.*, 87
Orthez, *t.*, 122
Ortler Alps, 346
Ortygia, *i.*, 387
Orzinovi, *t.*, 363
Osnabrück, *t.*, 270
Osopo, *t.*, 371
Ossa, *m.*, 403
Ossetes, *peop.*, 423
Oste, *r.*, 286
Ostend, *t.*, 228, 236, 239
Osterode, *t.*, 426
Ostia, *t.*, 378
Ostiaks, *peop.*, 464
Ostrach, *r.* and *t.*, 308
Ostrolenka, *t.*, 297
Otranto, *pr.*, 382
Otranto, *t.*, 381
Otrar, *t.*, 503
Ottawa, *r.* and *t.*, 611
OttomanEmpire,*pop.*,395
Ottoman Empire, *religions*, 395
Otumba, *t.*, 596
Ouanne, *r.*, 161
Ouarensenis, *m.*, 529
Ouche, *r.*, 188
Oude, *t.*, 481
Oudenarde, *t.*, 228, 240
Oudja, *t.*, 543
Ouennougha, *m.*, 529, 530
Ouenseris, *m.*, 529
Oukra, *r.*, 297
Oula, *r.*, 428
Oulad Aiça, *peop.*, 544
Oulad Nails, *peop.*, 544
Oulad Sidi Mohammed, *peop.*, 544
Oulad Sidi Sheikhs, *peop.*, 545
Oulouk Tagh, *m.*, 463
Ounjegah, *r.*, 613
Oupa, *r.*, 424
Oural Mountains, 50, 456, 463
Oural, *r.*, 425
Ouralsk, *t.*, 425
Oureq, *r.*, 164

Ouro Preto, *t.*, 577
Ourthe, *r.*, 225
Ouse, *r.*, 448
Oust, *r.*, 147
Oustvola, *r.*, 499
Ouvese, *r.*, 192
Ouveze, *r.*, 190
Ovampos, *peop.*, 555
Ovas, *peop.*, 560
Over Flakkee, *i.*, 223
Over Yssel, *pr.*, 272
Oviedo, *t.*, 88
Owhyhee, *i.*, 510
Owl, *m.*, 291
Oxford, *t.*, 447
Oyak, *r.*, 583
Oyapok, *r.*, 583
Ozama, *r.*, 619

P.

Paar, *r.*, 310
Pacific Ocean, 36, 455
Pactolus, *r.*, 499
Padang, *t*, 507
Paderborn, *t.*, 269
Padua, *t.*, 368
Pago, *i.*, 396
Paimbœuf, *t.*, 143
Paimpol, *t.*, 147
Palais, Le, *t.*, 141
Palais, St., *t.*, 122
Palamos, *t.*, 95
Palar, *r.*, 484
Palatcha, *t.*, 499
Palembang, *kgd.*, 507
Palencia, *t.*, 78, 83
Palencia, *r.*, 96
Palenque, *t.*, 595
Paleocastro, *f.*, 401
Palermo, *t.*, 388
Palestine, 496
Palestro, *t.*, 359
Palma, *t.*, 69, 101
Palma, *i.*, 562
Palma Nova, *f.*, 371
Palmas, *c.*, 513
Palmyra, *t.*, 490
Palos, *t.*, 68
Palos, *c.*, 94
Palzig, *t.*, 292
Pampas, 18
Pampeluna, *t.*, 98
Pamphylia, *pr.*, 498
Panama, *g.*, 36, 565
Panama, *t.*, 591
Panaro, *r.*, 356
Pancorbo, *m.*, 96
Paniput, *t.*, 482
Pannonia, *pr.*, 249
Pannonians, *peop.*, 249
Pantheism, 30
Panticapæum, *t.*, 420
Papehiti, *i.*, 511
Paphlagonia, *pr.*, 498
Papua, *i.*, 512
Para, *t.*, 581
Paradis, Grand, *m.*, 176
Paraguay, *rep.*, 578
Paraguay, *r.*, 576
Parahyba, *t*, 575
Paramaribo, *t.*, 584
Parana, *r.*, 575
Paranahyba, *r.*, 581
Parchwitz, *t.*, 293
Parga, *t.*, 399
Paris, *t.*, 157
Parma, *r.* and *t.*, 357
Parma, *pr.*, 372
Parnassus, *m.*, 391
Paro, *i.*, 407
Part Dieu, *f.*, 185
Partha, *r.*, 286
Pasaman, *m.*, 506
Pasages, Los, *t.*, 88
Pas de Calais, *dep.*, 236
Passarge, *r.*, 426
Passarovicz, *t.*, 327
Passau, *t.*, 306
Pass Lueg, *f.*, 313
Passes, 13
Pasto, *plt.*, 580
Pastos, Los, *m.*, 580
Patagonia, 566, 571
Patagonians, *peop.*, 571
Patapsco, *r.*, 605
Patay, *t.*, 147
Paté, *f.*, 129
Patkoi, *m.*, 477
Patna, *t.*, 480
Patras, *g.*, 397
Patras, *t.*, 406
Pau, *t.*, 122
Pauillac, *t.*, 129
Paul, *f.*, 419
Paul, St., *r.*, 550
Paul, St., *t.*, 561
Paulo, San, *t.*, 577
Pavia, *t.*, 360
Paz, La, *t.*, 583
Peaks, 13
Pearl, *is.*, 565
Pechant, *t.*, 225
Pedro, San, *t.*, 574
Peebles, *t.*, 451
Peene, mouth, 293
Pegau, *t.*, 285
Pegu, *t.*, 480
Peiho, *r.*, 470
Peking, *t.*, 470
Pelasgi, *peop.*, 52
Pelew, *i.*, 510
Pe-ling, *m.*, 466
Pelion, *m.*, 403
Peloponnesus, *pr.*, 405
Pelten, *r.*, 297
Pelusium, *t.*, 524
Pelvoux de Vallouise, *m.*, 177
Pembroke, *t.*, 449
Peñagolosa, *m.*, 90
Peñamarella, *m.*, 80
Peñaranda, *m.*, 80
Penas, *c.*, 87
Penaur, *r.*, 484
Penfeld, *r.*, 141
Peniche, *c.*, 81
Peniche, *t.*, 81
Peninsulas, 6
Peniscola, *t.*, 95
Penmarch, *c.*, 140
Penmarch, *i.*, 141
Pennine Alps, *m.*, 175
Penon de Velez de la Gomera, *f.*, 545
Pensacola, *b.*, 602
Pensacola, *t.*, 602
Pennsylvania, *sta*, 605
Penthland Firth, 452
Penthièvre, *f.*, 140
Penza, *t.*, 425
Peramo, *t.*, 499
Perche, *n.*, 139
Perche, *p.*, 92, 98
Perdido, *m.*, 91
Pergamos, *t.*, 499
Pergine, *p.*, 348
Perigord, *ms.*, 126
Perigord, *pr.*, 131
Perigueux, *t.*, 131
Perikop, *b.*, 418

Perikop, *isth.*, 418
Perle, *f.*, 229
Perm, *t.*, 425
Pernambuco, *t.*, 575
Peronne, *t.*, 169, 240
Perpignan, *t.*, 119
Perros, *t.*, 153
Persia, *plt.*, 488
Persian Gulf, 37, 456
Perth, *t.*, 451
Pertus, *f.*, 118
Pertus, *p.*, 93
Peru, *rep.*, 585
Perugia, *t.*, 377
Pesaro, *t.*, 382
Pescade, *f.*, 537
Pescara, *r.* and *t.*, 381
Peschiera, *t.*, 363
Peshawur, *t.*, 487
Pesmes, *t.*, 189
Pesth, *t.*, 323
Pesto, *ruins*, 380
Petchora, *r.*, 432
Peter, St., *i.*, 609
Petersburg, St., *t.*, 429
Peterwardein, *t.*, 324
Petite Pierre, *f.*, 216, 243
Petropavlosk, *f.*, 464
Petropavlovski, *t.*, 469
Petrozawodsk, *t.*, 433
Peypus, *l.*, 428
Peyrehorade, *t.*, 122
Peyrestortes, *t.*, 119
Pforzheim, *t.*, 266
Phalsbourg, *t.*, 216, 243, 244
Pharos, *i.*, 523
Pharsala, *t.*, 403
Philadelphia, *t.*, 605
Philæ, *i.*, 521
Philip, *f.*, 234
Philip, St., *f.*, 538
Philippe, St., *f.*, 229
Philippeville, *t.*, 224, 356
Philippines, *i.*, 509
Philippoli, *t.*, 402
Philippsburg, *t.*, 214
Philipsburg, *t.*, 617
Phocis, 391
Phrygia, *pr.*, 498
Piacenza, *pr.*, 372
Piacenza, *t.*, 351
Piave, *r.*, 370
Pico, *i.*, 102
Picts, *peop.*, 441
Piedmont, *pr.*, 372
Pierre, St., *t.*, 615
Pierre Chatel, *t.*, 184
Pierre-sur-Haute, St., *m.*, 138
Pietermaritzburg, *t.*, 556
Pietra Mala, *p.*, 345
Pietro, San, *f.*, 370
Pignerol, *t.*, 358
Pilat, *m.*, 138
Pilcomayo, *r.*, 576
Pilica, *r.*, 296
Pilier, *t.*, 134
Pillar, *c.*, 565
Pillau, *t.*, 427
Pilnitz, *t.*, 283
Pilsen, *t.*, 279
Pinet, *c.*, 180
Pinsk, *t.*, 417
Pinzwang, *f.*, 309
Piombino, *t.*, 377
Pique, *r.*, 129
Piræus, *t.*, 404
Pirmasens, *t.*, 216
Pirna, *t.*, 283
Pisa, *t.*, 377
Pisek, *t.*, 279
Pistoja, *t.*, 377
Pisuerga, *r.*, 83
Pitea, *r.*, 436
Pithavra, *t.*, 405
Piton des Carbets, *m.*, 615
Pittsburg, *t.*, 600
Pizzighettone, *t.*, 362
Pizzo, *t.*, 380
Plaine, *district*, 137
Plains, 18
Plata, *basin*, 572
Plata, *r.*, 575
Plata, La, *rep.*, 578
Platamona, *t.*, 403
Plateaus, 10, 18
Platte, *r.*, 600
Platten, *l.*, 323
Pleisse, *r.*, 286
Pleskow, *t.*, 428
Plock, *t.*, 296
Plomb du Cantal, *m.*, 124
Plymouth, *t.*, 445
Po, *r.*, 350
Po di Primaro, *r.*, 352
Po di Volano, *r.*, 352
Podolia, *pr.*, 415
Podor, *t.*, 549
Pœstum, *ruins*, 380
Point, 6
Point du Jour, *f.*, 193
Pointe, La, *f.*, 135
Pointe à Pitre, *t.*, 617
Pointe de Grave, *f.*, 129
Pointe des Espagnols, *f.*, 141
Pointe du Diable, *f.*, 141
Poitiers, *t.*, 145
Poitou, *pr.* and *ms.*, 133
Pola, *t.*, 372
Poland, *kgd.*, 297
Poland, *m.*, 50
Polar Sea, 36
Polcevera, *r.*, 374
Polesella, *t.*, 352
Polesina, *pr.*, 367
Policastro, *t.*, 380
Polotsk, 428
Pölten, St., *t*, 321
Polynesia, 505, 510
Polytheism, 30
Pomegue, *i.*, 181, 182
Pomerania, *p.*, 294
Pompeii, *ruins*, 379
Pomotou, *is.*, 511
Pondichery, *t.*, 484
Ponferrada, *t.*, 84
Pont à Chin, *t.*, 227
Ponta Delgada, *t.*, 102
Pont à Mousson, *t.*, 219
Pontarlier, *t.*, 189
Pont de Beauvoisin, *t.*, 191
Pont de Buy, *t.*, 147
Pont de l'Arche, *t.*, 160
Pont de Roide, *t.*, 189
Pont de Vaux, *t.*, 190
Ponte Corvo, *t.*, 379
Ponte de Duero, *t.*, 81
Ponte di Lagoscuro, *t.*, 351
Ponte di Legno, *t.*, 362
Pontifical States, 389
Pontivy, *t.*, 147
Pont l'Évêque, *t.*, 156
Pontoise, *t.*, 166
Pontorson, *t.*, 155
Pontremoli, *p.*, 345
Pontremoli, *t.*, 376
Pont St. Esprit, *t.*, 186
Ponts de Cé, *t.*, 143

Pont sur Seine, *t.*, 156
Pontus, *pr.*, 498
Poona, *t.*, 483
Poopo, *l.*, 580
Popayan, *t.*, 588
Popocatepetl, *m.*, 591
Poros, *i.*, 407
Porquerolles, *i.*, 182
Port, 13
Portalet, *f.*, 1?2
Port-au-Prince, *t.*, 619
Porteros, *i.*, 182
Portell, *p.*, 93
Portici, *t.*, 379
Portland, *i.*, 445
Portland, *t.*, 607
Port Louis, *p.*, 140
Port Louis, *t.*, 560, 561
Porto, *f.*, 364
Porto Bello, *t*, 595
Porto Cabello, *t.*, 587
Porto Conte, *t.*, 386
Porto Farina, *t.*, 531
Porto Fermjo, *t.*, 385
Portofino, *t.*, 376
Porto Leone, *t.*, 404
Porto Longone, *t.*, 385
Porto Vecchio, *t.*, 385
Portsmouth, *t.*, 445
Portsmouth, *t.*, 600, 607
Port-sur-Saône, *t.*, 187
Portugal, history of, 63
Portugal, *kgd.*, 63
Portugal, Sea of, 46
Portugalete, *t.*, 88
Port Vendres, *p.*, 118
Porzic, *f.*, 141
Posen, *gr. duc.*, 294
Posen, *t.*, 294
Posets, *m.*, 91
Posolippo, *t.*, 379
Posts, military, 34
Potenza, *t*, 380
Poti, *t.*, 501
Potomac, *r.*, 604
Potosi, *m.*, 576
Potosi, *t.*, 576
Potosi, San Luis de, *t.*, 592
Potsdam, *t.*, 286
Pouldu, *f.*, 140
Power, 33
Poyos, *hills*, 50, 463
Pozzolo, *t.*, 363
Pozzuoli, *t.*, 379
Pra, *r.*, 552
Prad, *t.*, 365
Pradella, *f.*, 364
Prades, *t.*, 119
Praga, *t.*, 296
Pragel, *p.*, 202
Prague, *t.*, 279
Prairies, 18
Pratz de Mollo, *f.*, 117
Predil, *p.*, 301
Prée, *f.*, 134
Pregel, *r.*, 426
Premethi, *t.*, 398
Prenelay, *m.*, 139
Prentzlou, *t.*, 294
Presburg, *t.*, 318
Prescott, *t.*, 610
Prevesa, *t.*, 399
Prewald, *f.*, 371
Primary strata, 3
Primolano, *t.*, 368
Prince Edward, *i.*, 609
Prince of Beira, *f.*, 583
Prince of Wales, *c.*, 565
Princess, *i.*, 562
Principato Citra, *pr.*, 382
Principato Ultra, *pr.*, 382
Principe, Del, *f.*, 620
Pripetz, *r.*, 417
Prisrend, *t.*, 397
Pristina, *t.*, 327
Privas, *t.*, 190
Procida, *i.*, 379
Promontories, 6
Protestantism, 3
Provence, *pr.*, 107
Providence, *i.*, 620
Providence, *t.*, 607
Provincia, *pr.*, 106
Prujani, *marsh*, 417
Prussia, *kgd.*, 258
Prussia, Rhenish, *pr.*, 219
Prussia, West, *pr.*, 297
Pruth, *r.*, 331
Przemysl, *t.*, 296
Psara, *i.*, 495
Psiloritcs, *m.*, 406
Pskow, *pr.* 429
Pskow, *t.*, 428
Ptolemais, *t.*, 528
Puebla, *t.*, 591
Pueblos, *peop.*, 571
Puente del Arzobispo, *t.*, 76
Puerto Principe, Sta. Maria de, *t.*, 620
Puerto Real, *t.*, 68
Puerto Rico, *i.*, 618
Puerto Santa Maria, 67
Puertos, 13
Puget Theniers, *t.*, 194
Pulawy, *t.*, 296
Pullo, *peop.*, 548
Pulo Penang, *i.*, 479
Pultawa, *t.*, 418
Pultusk, *t.*, 297
Punjab, *pr.*, 486
Punjab, *r.*, 486
Punjund, *r.*, 487
Punta, *f.*, 620
Puntales, *f.*, 67
Pursak, *r.*, 500
Purus, *r.*, 582
Pusterthal, *v.*, 365
Putumayo, *r.*, 583
Puycerda, *t.*, 98
Puy de l'Aiguillier, *m.*, 125
Puy de Dome, *dep.*, 147
Puy de Dome, *m.*, 137
Puy de la Grange, *m.*, 125
Puy de Sancy, *m.*, 125
Puy Ferrand, *m.*, 125
Puymoren, *p.*, 92, 98
Pylæ Amanicæ, *p.*, 476
Pylæ Syriæ, *p.*, 476
Pyramus, *r.*, 498
Pyrenees, *m.*, 49, 80, 90, 91
Pyrenees, Eastern, *m.*, 92,
Pyrenees, Eastern, *dep.*, 196
Pyrenees, Central, *m.*, 92 123
Pyrenees, Lower, *dep.*, 123
Pyrenees, Upper, *dep.*, 123
Pyrenees, Western, *m.*, 91
Pyrgos, *t.*, 406

Q.

Quadra, *is.*, 565
Quatre Bras, *t.*, 232
Quebec, *t.*, 611
Quebradas, 580
Queensberry, *m.*, 450
Queensland, *pr.*, 512
Queenstown, *t.*, 453
Queich, *r.*, 217

Queiss, *r.*, 293
Quelern, *pn.*, 140
Quelern, lines of, 141
Quentin, St., *t.*, 169
Quercy, *pr.*, 130
Queretaro, *t.*, 592
Quernevel, *f.*, 140
Querqueville, *f.*, 154
Quesnoy, *t.*, 230, 240
Queyras, *p.*, 194
Quiberon, *pn.*, 140
Quilimane, *t.*, 557
Quillebeuf, *t.*, 160
Quimper, *t.*, 147
Quittah, *t.*, 553
Quito, *plt.*, 580
Quito, *t.*, 586, 590
Quorra, *r.*, 551

R.

Raab, *r.* and *t.*, 322
Raabnitz, *r.*, 322
Rabba, *t.*, 551
Races of man, 29
Ragusa, *t.*, 397
Railroads, 34
Rain, *t.*, 309
Rajpoots, *peop.*, 487, 488
Rakkah, *t.*, 490
Raleigh, *t.*, 603
Ramanieh, *t.*, 523
Rambert, St., *t.*, 142
Ramillies, *t.*, 232
Raminsa, *m.*, 538
Rance, *r.*, 155
Rambouillet, *f.*, 193
Rangamattee, *t.*, 482
Rangoon, *t.*, 480
Rapallo, *t*, 376
Raphael, St., *b.*, 182
Rapperschwyl, *l.* and *t.*, 210
Rasat, *c.*, 514
Ras Benass, *c.*, 513
Ras Bir, *c.*, 513
Rascia, *t.*, 327
Ras el Had, *c.*, 456
Ras el Khyma, *t.*, 492
Rassova, *t.*, 330
Rastadt, *t.*, 265
Rathenau, *t.*, 287
Ratibor, *t.*, 292
Ratisbon, *t.*, 306
Ratoneau, *i.*, 181, 182
Rauhe Alp, *m.*, 261
Ravee, *r.*, 487
Ravenna, *t.*, 382
Ravines, 17
Raz, *c.*, 140
Realejo, *t.*, 591
Rear, *r.*, 118
Reculet, *m.*, 172
Red River, 600, 612
Red Sea, 37, 456, 513
Rednitz, *r.*, 267
Ree, *l.*, 454
Regen, *r.*, 308
Regensburg, *t.*, 306
Reggio, *t.*, 357, 380
Reglitz, *r.*, 292
Reichenau, *t.*, 205
Reichenbach, *t.*, 294
Reikinvik, *t.*, 614
Reims, *t.*, 167
Reissouse, *r.*, 190
Reiti, *f.*, 309
Religions, 30
Remiremont, *t.*, 217
Renchen, *r.* and *t.*, 265
Reni, *t.*, 331
Rendsburg, *t.*, 289
Renfrew, *t.*, 450
Rennes, *t.*, 147
Reno, *r.*, 357
Rentema, *rapids*, 582
Reole, La, *t.*, 128
Reschen Scheideck, *p.*, 299
Rethel, *t.*, 166
Reunion, *i.*, 561
Reus, *r.*, 72
Reuss, *r.*, 209
Reuss Greiz, *prin.*, 288
Reuss Schleiz, *prin.*, 288
Revel, *t.*, 429
Revelu Gigedo, *i.*, 565
Revenue, 33
Reynosa, *m.*, 80, 90
Rhé, *i.*, 134
Rhatia, 248
Rhætic Alps, *m.*, 299
Rheinberg, *t.*, 215
Rheinwaldhorn, *m.*, 201
Rheinfelden, *t.*, 207
Rhine, *r.*, 205
Rhine, Anterior, *r.*, 205
Rhine, Lower, *dep.*, 219
Rhine, Lower Basin of, 220
Rhine, Middle, *r.*, 205
Rhine, Middle Basin of, 211
Rhine, Posterior, *r.*, 205
Rhine, Upper, *dep.*, 219
Rhion, *r.*, 501
Rhode, *i.*, 606
Rhodes, *i.*, 456, 495
Rhone, *r.*, 183
Rhone, *dep.*, 195
Rhönegebirge, *m.*, 263
Rhune, La, *m.*, 88
Riadh, *t.*, 493
Rialp, *t.*, 98
Richard Toll, *f.*, 549
Richelieu, *r.*, 611
Richepanse, *f.*, 617
Richmond, *f.*, 606
Richmond, *t.*, 603
Rideau, *l.*, 611
Rienz, *r.*, 365
Riesenkoppe, *m.*, 277
Riesengebirge, *m.*, 277
Rieti, *t.*, 378
Rif, *m.*, 529
Riga, *t.*, 428
Riga, Gulf of, 46
Rihah, *t.*, 497
Rima, *r.*, 552
Rimac, *r.*, 589
Rimains, *f.*, 153
Rimini, *t*, 382
Rio de Janeiro, *t.*, 574
Rio-Santi-Petri, *st.*, 67
Ripach, *defile*, 284
Ripault, *t.*, 145
Ripoll, *t.*, 100
Riss, *r.*, 308
Riva, *t.*, 363
River, 7
Riviera de Ponente, 195
Riviera de Genova, 195
Riviera de Levante, 195, 376
Rivoli, *plt.*, 347, 363, 365
Roads, 33
Roadstead, 6
Roanne, *t.*, 142
Rocca, *c.*, 76
Rocca d'Anfo, *f.*, 363
Rochdale, *t*, 450
Roche Bernard, *t.*, 147

Roche Serviere, *t.*, 146
Rochefort, *t.*, 135
Rochelle, La, 134
Rocky Mountains, 566, 593
Rocoux, *t.*, 223
Rocroy, *t.*, 224, 241
Rodemack, *t.*, 242
Rodez, *t.*, 125
Roer, *r.*, 226
Roja, *r.*, 371
Romagnano, *t.*, 358
Romainville, *f.*, 159
Romanche, *r.*, 192
Romans, *t.*, 192
Rome, *t.*, 377
Roncesvalles, *t.*, 92
Ronco, *t.*, 367
Ronco, *r.*, 382
Ronda, Sierra, *ms.*, 63
Ronda, *t.*, 65
Ronelle, *r.*, 230
Roque, San, *c.*, 564
Roque, San, *f.*, 65
Rosa, *c.*, 536
Rosa, *m.*, 175
Rosaplia, *f.*, 397
Rosas, *t.*, 95
Rose, *f.*, 452
Roseau, *t.*, 616
Rosebecque, *t.*, 231
Rosenheim, *t.*, 312
Rosetta, *t.*, 523
Rosny, *f.*, 159
Rossbach, *t.*, 285
Rostock, *t.*, 292
Rota, *t.*, 67
Rothaargebirge, *m.*, 263
Rothiere, *t.*, 162
Rothweil, *t.*, 266
Rotondo, *m.*, 383
Rotschensalm, *t.*, 430
Rotterdam, *t.*, 223
Rotterdam, *f.*, 508
Roufia, *r.*, 405
Rouelle, *t.*, 135
Rouen, *t.*, 160
Rouergue, *m.*, 124
Rouergue, *pr.*, 130
Roumani, *peop.*, 333
Rousses, Les, *f.*, 187
Roussillon, *pr.*, 120
Roveredo, *t.*, 366
Rovigno, *t.*, 372
Rovigo, *t.*, 367
Roxo, *c.*, 513
Roxo, *r.*, 600
Roya, *r.*, 195
Royal, *f.*, 154
Royan, *f.*, 129
Royan, *t.*, 129
Rubicon, *r.*, 382
Rudolstadt, *t.*, 284
Rugen, *i.*, 292
Rugged Alps, *m.*, 261
Ruhr, *r.*, 269
Rumblar, *r.*, 69
Rumili, *f.*, 400
Rummel, *r.*, 539
Rungpoor, *t.*, 481
Running waters, 19
Rupel, *r.*, 232
Rupelmonde, *t.*, 232
Ruremonde, *t.*, 226
Russbach, *r.*, 320
Russia, *emp.*, 408
Russia, statistics, 433
Rustchuk, *t.*, 330
Ryswick, *t.*, 271

S.

Saabs, *peop.*, 555
Saal, *r.*, 313
Saale, *r.*, 267, 284
Saalfeld, *t.*, 284
Saane, *r.*, 208
Saar, *r.*, 219
Saarbrück, *t.*, 219
Saarlouis, *t.*, 219, 243
Saba, *i.*, 617
Sabbia, *v.*, 363
Sabeism, 30
Sabermatty, *t.*, 485
Sables d'Olonne, *t.*, 134
Sablonceau, *f.*, 134
Sabor, *r.*, 83
Sacco, *r.*, 379
Sacile, *t.*, 371
Sackett Harbour, *f.*, 610
Sacramento, *r.*, 593
Sadao, *r.*, 78
Sadowa, *t.*, 278
Sa-el-Hadjar, *t.*, 523
Safsaf, *r.*, 539
Sagan, *t.*, 293
Saghalien, *i.*, 455, 468
Saghalien, *r.*, 469
Sagra, *m.*, 66
Sagres, *t.*, 71
Saguenay, *r.*, 611
Saguntum, *t.*, 96
Sahara, 531, 543
Sahara, *plt.*, 546
Saida, *t.*, 542
Saida, *m.*, 532
Saide, *t.*, 496
Saigon, *t.*, 472
Saima, *l.*, 429
Saintes, *t.*, 135
Saintes, Les, *is.*, 616
Sais, *t.*, 523
Sala, *kyd.*, 554
Salado, *r.*, 576
Salahieh, *t.*, 523
Salamanca, *t.*, 82
Salat, *r.*, 129
Salces, *f.*, 116
Saldeon, *p.*, 92
Salee, *t.*, 546
Salem, *t.*, 605
Salerno, *t.*, 380
Salghir, *r.*, 418
Salinas, *p.*, 88
Salins, *t.*, 190
Salo, *p.*, 92
Salo, *f.*, 363
Salona, *t.*, 400
Salone, *t.*, 396
Saloniki, *b.*, 401, 402
Saloniki, *t.*, 402
Saloum, *sta.*, 550
Salt, *r.*, 616
Salta, *t.*, 576
Salto, *r.*, 378
Saluen, *r.*, 479
Saluzzo, *t.*, 350
Salvador de Bahia, San, *t.*, 574
Salvador, San, *rep.*, 597
Salvador, San, *i.*, 621
Salvador, San, *t.*, 554
Salza, *r.*, 313, 321
Salzburg Alps, *m.*, 300
Salzburg, *t.*, 313
Samaria, *pr.*, 497
Samarcand, *t.*, 503
Samboangan, *t.*, 509
Sambre, *r.*, 224
Samoiedes, *peop.*, 464
Samothraki, *i.*, 408
Sampigny, *t.*, 222

Samsun. *t.*, 500
San, *r.*, 296
Sana, *t.*, 492
Sancerre, *t.*, 142
Sandalwood. *i.*, 508
Sand hills, 25
Sandomirz, *t.*, 296
Sandwich Islands, 510
Sangara country, 551
Sang-Koi, *r.*, 472
Sangonera, *r.*, 95
Sanguesa, *t.*, 98
Saukaria, *r.*, 500
Sanpu, *r.*, 481
Santa Casa, *shrine*, 382
Santa Cruz, *is.*, 511
Santander, *t.*, 88
Santarem, *t.*, 77, 582, 583
Santee, *r.*, 603
Santerno, *r.*, 357
Santiago of Compostela, *t.*, 84
Santo, *m.*, 402
Santona, *t.*, 88
Saone, *r.*, 187
Saone, Upper, *dep.*, 195
Saone et Loire, *dep.*, 196
Saorgio, *t.*, 195
Sarabat, *r.*, 499
Saragossa, *t.*, 96
Saratof, *t.*, 427
Saratoga, *t.*, 606
Sarca, *r.*, 363
Sardinia, *i.*, 385
Sargans, *t.*, 206
Sarine, *r.*, 208
Saros, *b.*, 401
Sarre, *f.*, 120
Sarre, *r.*, 219
Sarrebourg, *t.*, 219
Sarreguemines, *t.*, 219
Sart, *t.*, 499
Sarthe, *r.*, 146
Sarthe, *dep.*, 147
Sarus, *r.*, 498
Sarvis, *r.*, 323
Sarzana, *t.*, 376
Sas van Gand, *t.*, 228
Saskatchewan, *r.*, 612
Sasso Vernale, *m.*, 348
Sataldja, *r.*, 403
Satalieh, *t.*, 499
Sau, *r.*, 326
Saujon, *t.*, 135
Sault, St. Marie, *r.*, 610
Saumonards, Les, *f.*, 133
Saumur, *t.*, 143
Savage peoples, 32
Sauveur le Vicomte, St., *t.*, 156
Sauveur, St., *t.*, 122
Sauveur, St., *f.*, 231
Savannah, *r.*, 602
Savannah, *t.*, 603
Savannas, 18
Savo, *r.*, 129, 326
Savena, *r.*, 357
Savenay, *t.*, 143
Saverne, *t.*, 216
Savigliano, *t.*, 353
Savio, *r.*, 382
Savona, *t.*, 182
Savoureuse, *r.*, 189
Savoy, *dep.*, 196
Savoy, Upper, *dep.*, 196
Saxe Altenburg, *duc.*, 287
Saxe Coburg Gotha, *duc.*, 275
Saxe Meiningen, *duc.*, 275
Saxe Weimar Eisenach, *gr. duc.*, 287
Saxon Switzerland, 277
Saxons, 248, 249
Saxony, *kgd.*, 287
Saxony, *pr.*, 275, 288
Sayan, *m.*, 463
Sbakhs, *plt.*, 530, 540
Scandinavian region, 433
Scarborough, *t.*, 448
Scardo, *m.*, 302, 390
Scarpe, *r.*, 230
Scesa Plana, *m.*, 260
Schabacz, *t.*, 236
Schaffhausen, *t.*, 206
Schandau, *t.*, 278
Scharding, *t.*, 313
Scharnitz, *t.*, 311
Schelde, *r.*, 227
Scheldt, *r.*, 227
Schelestadt, *t.*, 216, 244
Schellenberg, *f.*, 307
Schemnitz, *t.*, 320
Schenk, *f.*, 215
Schilintzi, *marsh*, 427
Schinznach, *t.*, 208
Schleitz, *t.*, 284
Schlüsselburg, *t.*, 429
Schmalkalden, *t.*, 274
Schmutter, *r.*, 309
Schneeberg, *t.*, 284
Schneeberg, *m.*, 277
Schneekoppe, *m.*, 277
Schönfeld, *t.*, 286
Schongau, *t.*, 309
Schoonhoven, *t.*, 221
Schouwen, *i.*, 223, 229
Schumla, *t.*, 332
Schutt, *i.*, 318
Schwarzburg Rudolstadt, *prin.*, 288
Schwarzburg Sondershausen, *prin.*, 288
Schwarza, *r.*, 319
Schweidnitz, *t.*, 293
Schweinfurth, *t.*, 267
Schwerin, *t.*, 287
Schwinge, *r.*, 286
Schwold, *r.*, 219
Schwyz, *t.*, 209
Schyl, *r.*, 331
Scilla, *t.*, 380
Scilly, *is.*, 446
Scindia, *kgd.*, 482
Scioto, *r.*, 601
Scombi, *r.*, 398
Scott, *f.*, 602
Scotland, *kgd.*, 443, 450
Scots, *peop.*, 441
Scrivia, *r.*, 356
Scutari, *l.*, 397
Scutari, *t.*, 397, 500
Sczara, *r.*, 427
Seas, 5
Sebnou, *r.*, 541
Sebaste, *t.*, 497
Sebastian, San, *t.*, 88
Sebastopol, *t.*, 419
Sebdou, *m.*, 532
Sebdou, *f.*, 543
Sebenico, *t.*, 396
Sebka, *l.*, 533
Seboo, *r.*, 546
Secchia, *r.*, 357
Seclaves, *peop.*, 561
Secondary strata, 4
Sedan, *t.*, 222, 241, 242
Seez, *t.*, 156
Segna, *t.*, 396
Sego, *t.*, 551
Segorbe, *t.*, 96
Segovia, *t.*, 82

Segre, *m.*, 98
Segre, *r.*, 98
Segundera, *m.*, 84
Segura, *m.*, 66
Segura, *r.*, 95
Seille, *r.*, 190, 218
Sein, *i.*, 141
Seine, *r.*, 156
Seine, *dep.*, 170
Seine, Lower, *dep.*, 170
Seine et Oise, *dep.*, 170
Seine et Marne, *dep.*, 170
Seleucia, *t.*, 491
Selembria, *r.*, 403
Selimno, *t.*, 402
Selingha, *r.*, 465
Selinghinsk, *m.*, 463
Selkirk, *t.*, 451
Selkirk Settlement, 613
Semendria, *t.*, 324
Seminara, *t.*, 380
Semipolatinsk, *t.*, 464
Semisat, *t.*, 490
Semlin, *t.*, 324
Semmering, *m.*, 300
Semoy, *r.*, 224
Sempach, *l.*, 209
Sena, *f.*, 557
Senef, *t.*, 232
Senegal, *r.*, 549
Senegambia, 548
Senio, *r.*, 357
Sennaar, *pr.*, 521
Sennar, *t.*, 524
Senne, *r.*, 232
Sens, *t.*, 160
Sense, *r.*, 208
Sensée, *r.*, 230
Seoul, *t.*, 470
Septem Maria, *delta*, 352
Septimania, *pr.*, 106
Septimer, *m.*, 201
Sequillo, *r.*, 83
Seraglio, *t.*, 364
Serain, *r.*, 160
Serchio, *r.*, 376
Seres, *t.*, 402
Sereth, *r.* and *t.*, 331
Seringapatam, *t.*, 484
Serio, *r.*, 362
Serpa, *f.*, 72
Serrania, *m.* 618
Serravalle, *t.*, 366
Sersou, *plt.*, 530
Sertil Bahr Kalessi, *f.*, 401
Servan, St., *t.*, 153
Servia, *prin.*, 329
Sesia, *r.*, 358
Sesto Calende, *t.*, 359
Setif, *t.*, 540
Settit, *r.*, 524
Setubal, *t.*, 76
Seudre, *r.*, 135
Seven Islands, 152
Sever, *r.*, 77
Severn, *r.*, 449
Seves, *m.*, 434
Seville, *pr.*, 69
Seville, *t.*, 68
Sèvre Nantaise, *r.*, 145
Sèvre Niortaise, *r.*, 136
Sèvres, Two, *dep.*, 137, 147
Seybous, *r.*, 539
Seychelles, *is.*, 513, 559
Seyne, *t.*, 194
Seyne, La, *t.*, 181
Seyssel, *t.*, 184
Sham, El, *t.*, 498
Shangallos, *peop.*, 524
Shannon, *b.* and *r.*, 454
Shary, *r.*, 553
Shat el Arab, *r.*, 491
Shay Kieh country, 521
Sheerness, *t.*, 447
Sheffield, *t.*, 448
Sheikh Abadeh, *t.*, 522
Shelif, *r.*, 541
Shenandoah, *r.*, 604
Shendy, *pr.*, 521
Shendy, *t.*, 521
Shetland, *is.*, 452
Shetland, South, *is.*, 559
Shields, *t.*, 448
Shiites, 31
Shilka, *r.*, 469
Shiraz, *t.*, 489
Shire, *r.*, 558
Shoa, *kgd.*, 526
Shotti, *l.*, 533
Shott el Garbi, *l.*, 543
Shott el Saida, *l.*, 544
Shott el Shergui, *l.*, 543
Shrewsbury, *t.*, 449
Siam, *b.*, 455
Siam, *kgd.*, 473
Siam, *t.*, 472
Siass, *r.*, 429
Siberia, New, *i.*, 455, 464
Sicie, *c.*, 180
Sicilian Sea, 47
Sicily, *i.*, 386
Sicyonia, 392
Sidi-bel-Abbes, *f.*, 543
Sidi-bel-Hacel, *f.*, 542
Sidi Ferruch, *pn.*, 538
Sidra, *g.*, 47, 514
Sieg, *r.*, 269
Siegen, *t.*, 269
Sienna, *t.*, 377
Sienne, *r.*, 156
Sierck, *t.*, 217, 242
Sierosk, *t.*, 297
Sierra Leone, *r.* and *colony*, 550
Sierras, 580
Sieve, *r.*, 377
Sieverovostochnii, *c.*, 455
Sig, *r.*, 542
Sigean, *l.*, 120
Sigmaringen, *t.*, 304
Siguenza, *m.*, 74
Siguenza, *t.*, 77
Sihl, *r.*, 210
Sihoon, *r.*, 498
Sihun, *r.*, 503
Sikhs, *peop.*, 487, 488
Sikkah, *r.*, 543
Sil, *r.*, 84
Silao, *r.*, 592
Silberberg, *t.*, 293
Sile, *r.*, 370
Silesia, *pr.*, 294
Silistria, *t.*, 330
Sillon, *c.*, 152
Silune, *r.*, 156
Silvretta, *m.*, 260
Silvaplana, *t.*, 312
Simbirsk, *t.*, 424
Simferopol, *t.*, 419
Simmen, *r.*, 200
Simoon, 547
Simplon, *p.*, 176
Sinamari, *r.*, 583
Sinano, *t.*, 406
Sind, *r.*, 482
Sinde, *pr.*, 488
Sinde, *r.*, 486
Sines, *c.*, 76
Sines, *t.*, 76
Singan, *t.*, 470

Singapore, *t.*, 479
Sinh-kha-bab, *r.*, 486
Sinigaglia, *t.*, 382
Sinope, *t.*, 500
Sinsheim, *t.*, 266
Sinub, *t.*, 500
Sio, *r.*, 323
Sion, *t.*, 183
Sioule, *r.*, 144
Sir Daria, *r.*, 503
Sisteron, *t.*, 193
Sistova, *t.*, 330
Sitka, *t.*, 594
Sitter, *r.*, 207
Siuechau, *m.*, 475
Sivas, *pr.*, 498
Sivas, *t.*, 500
Sivash Sea, 418
Siwah, *oasis*, 527
Sizeboli, *t.*, 332
Sjalland, *i.*, 289
Skager Rak, *st.*, 45, 435
Skagstolstind, *m.*, 435
Skio, *i.*, 495
Skipitars, *peop.*, 399
Skorki, Shoals of, 47
Skyro, *i.*, 408
Slaney, *r.*, 453
Slatina, *t.*, 331
Slave Coast, 552
Slavonia, *pr.*, 328
Slesvig, *pr.*, 289
Slesvig, *t.*, 289
Sligo, *b.* and *t.*, 454
Sloiczek, *m.*, 49
Stonim, *t.*, 427
Sluys, *t.*, 228, 236
Smendou, *f.*, 539
Smolensk, *t.*, 416
Smyrna, *t.*, 499
Snake, *r.*, 593
Snelling, *f.*, 599
Snowdon, *m.*, 443
Sobat, *r.*, 521
Society, *is.*, 510
Socoa, *f.*, 120
Socotra, *i.*, 513, 559
Soest, *battle*, 269
Sofala, *t.*, 558
Sogamozo, *r.*, 588
Sogd, *r.*, 503
Soignes Forest, 232
Soissons, *t.*, 166, 242
Sokoto, *t.*, 552
Soleure, *t.*, 208
Solfatara, 379
Solferino, *m.*, 363
Solimos, *r.*, 582
Solingen, *t.*, 269
Solomon, *is.*, 511
Solothurn, *t.*, 208
Solway Firth, 449, 450
Somalis, *peop.*, 558
Sombrero, *f.*, 592
Somme, *b.*, 169
Somme, *r.*, 169
Somme, *dep.*, 170
Somo, *m.*, 74
Sondrio, *t.*, 361
Sonnites, 31
Sophia, *t.*, 331
Sorata, *m.*, 580
Sorgues, *r.*, 192
Soria, *t.*, 81
Sorolaba, *t.*, 577
Sorrento, *t.*, 380
Soudan coun'ry, 551
Souillac, *t.*, 130
Soukhona, *r.*, 432
Soukoum Kaleh, *t.*, 501
Soulou, *kgd.*, 508
Soulous, *peop.*, 509
Soulu Derbend, *p.*, 402
Soura, *r.*, 425
Sourabaya, *t.*, 507
Southampton, *t.*, 445
South Australia, *pr.*, 512
Southern Canal, 127
Southern Ocean, 36
Southwold, *t.*, 448
Spain, *kgd.*, 62
Spain, history of, 62
Spalatro, *t.*, 396
Spandau, *t.*, 286
Spanden, *t.*, 426
Spanish region, 58
Spanish Town, 614
Spartel, *c.*, 46, 513, 514
Spessart, *m.*, 263
Spey, *r.*, 452
Speyer, *t.*, 214
Spezzia, *t.*, 407
Spezzia, *t.* and *b.*, 376
Spinalonga, *t.*, 407
Spitzbergen, *i.*, 614
Splügen, *p.*, 201
Splügen, *t.*, 205
Spoleto, *t.*, 378
Sporades, *is.*, 408
Spree, *r.*, 287
Springfield, *t.*, 606
Spurs, 12
Stabrock, *t.*, 584
Stade, *t.*, 286
Staffarde, *t.*, 350
Stafford, *r.*, 356
Stalimene, *i.*, 408
Stanislawow, *t.*, 415
Stanovoi, *m.*, 463, 465
Stanz, *t.*, 209
Stasuli, *t.*, 538
State, 33
Steenwyk, *t.*, 270
Stefano, San, *f.*, 386
Steigerwald, *ms.*, 262
Stein, *t.*, 317
Stellata, *f.*, 351
Stelvio, *m.*, 346
Stelvio, *p.*, 347
Stenay, *t.*, 222, 242
Stenkerque, *t.*, 231
Steppes, 18
Stettin, *t.*, 292
Stettiner Haff, *l.*, 292
Steyer, *t.*, 321
Steyeregg, *t.*, 321
Stirling, *t.*, 451
Stockholm, *t.*, 437
Stoer, *r.*, 287
Stollhofen, *t.*, 213
Stora, *b.*, 535
Stora, *t.*, 536
Stormont, *t.*, 611
Stour, *r.*, 448
Stradella, *road*, 345
Straits, 6
Strakonitz, *t.*, 279
Stralsund, *t.*, 292
Strasburg, *t.*, 218, 243, 244
Stratified rocks, 3
Straubing, *t.*, 307
Streams, 8
Stromboli, *i.*, 386
Strongbow, *f.*, 453
Strongholds, 34
Stroum, *r.*, 402
Studianka, *t.*, 417
Stura, *r.*, 354
Stuttgart, *t.*, 266
Styria, *pr.*, 322, 327
Styrian Alps, 300

Suakin, *t.*, 525
Suazo, Bridge of, 68
Sucré, *t.*, 576
Suda, *i.* and *t.*, 406
Sudetic Mountains, 291
Sudiya, *t.*, 481
Suevi, *peop.*, 249
Suez, Isthmus of, 37
Suez, *t.*, 525
Sugana, *v.*, 368
Suliren, *r.*, 209
Suir, *r.*, 453
Suliman, *m.*, 476
Suliman country, 551
Sultanabad, *t.*, 489
Sultanieh Hissar, *f.*, 401
Sultanier, *t.*, 489
Sulz, *t.*, 266
Sumatra, *i.*, 506
Sumbawa, *i.*, 508
Summits of hills, 12
Sumter, *f.*, 603
Sunda, *i.*, 506
Sunderland, *t.*, 448
Superior, *l.*, 610
Sur, *t.*, 496
Surat, *t.*, 485
Sure, *r.*, 218
Surgut, *t.*, 464
Surinam, *r.*, 584
Susa, *t.*, 358, 491
Susam, *i.*, 495
Sutlej, *r.*, 486
Svealborg, *f.*, 430
Sviatoi, *c.*, 455
Svir, *r.*, 429
Swabian Alps, 261
Swartholm, *f.*, 430
Sweden, statistics, 439
Swilly, *l.*, 453
Swine, mouth, 293
Sybaris, *t.*, 383
Sydney, *t.*, 512, 609
Syra, *i.*, 407
Syracuse, *t.*, 387
Syria, *pr.*, 495
Syrian, *t.*, 480
Syrmium, *t.*, 326
Systems of mountains, 12
Szalenkement, *t.*, 324
Szamos, *r.*, 324
Szegedin, *t.*, 324

T.

Tabarcah, *f.*, 532
Tabarich, *t.*, 497
Tabarich, *t.*, 497
Tabascain, *p.*, 92
Tabasco, *r.*, 595
Tabasco, *t.*, 595
Tabatinga, *t.*, 582
Table Bay, 556
Table Mountains, 556
Tableland, 10, 18
Tabor, *t.*, 279
Tabor, *m.*, 497
Tabriz, *t.*, 489
Tacazze, *r.*, 524
Tacsora, *m.*, 576
Tadmor, *t.*, 490
Tafilet country, 547
Tafnah, *r.*, 543
Tagales, *peop.*, 509
Taganrog, *t.*, 421
Taggia, *r.*, 195
Tagliacozzo, *t.*, 378
Tagliamento, *r.*, 371
Taguin, *t.*, 541
Tagus, *r.*, 77
Tagus, *basin*, 73
Tahiti, *i.*, 510
Tahouta, *i.*, 510
Taillebourg, *t.*, 135
Tain, *t.*, 186
Tai-Wan, *t.*, 469
Tajuña, *r.*, 77
Tajurrah, *t.*, 526
Takinos, *l.*, 402
Takou, *f.*, 470
Talanta, *st.*, 401
Talaveyra de la Reyna, *t.*, 76
Talut, *f.*, 140
Taman, *l.*, 422
Tamatave, *t.*, 560
Tambo, *m.*, 201
Tamboukis, *peop.*, 557
Tamega, *r.*, 83
Tamer, *r.*, 445
Tampico, *t.*, 596
Tananarive, *t.*, 560
Tanargue, *m.*, 171
Tanaro, *r.*, 354
Tanganyika, *l.*, 558
Tangier, *t.*, 546
Tanis, *t.*, 524
Tanjore, *t.*, 484
Tännengebirge, *ms.*, 300
Tantah, *t.*, 523
Taormina, *t.*, 387
Tapajos, *r.*, 582
Tapty, *r.*, 485
Taranto, *t.*, 380
Tarascon, *t.*, 129, 186
Tarbes, *t.*, 121
Tarlouere, *r.*, 136
Tarifa, *cap.*, 64
Tarn, *r.*, 130
Tarn, *dep.*, 131
Tarn et Garonne, *dep.*, 131
Taro, *r.*, 357
Tarraconensis, 61
Tarragona, *t.*, 95
Tarris, *r.*, 438
Tartary, Independent, 503
Tartaro, *r.*, 367
Tartas, *t.*, 123
Tarvis, *p.*, 301
Tasmania, *i.*, 512
Tasselot, *m.*, 148
Tatihou, *i.*, 154
Tatra, *m.*, 295
Tattah, *t.*, 486
Tauber, *r.*, 267
Taunus, *m.*, 263
Taureau, *f.*, 153
Tauris, *t.*, 489
Taurus, *m.*, 493
Taute, *r.*, 156
Tavignano, *r.*, 385
Tavira, *t.*, 71
Tawareks, *peop.*, 547
Taygetus, *m.*, 391
Tchardagh, *m.*, 390
Tchatir Dagh, *m.*, 419
Tcherkesses, *peop.*, 422
Tchernaia, *r.*, 418
Tchernigow, *t.*, 418
Tchernoilar, *t.*, 424
Tcherkask, *t.*, 421
Tchesme, *t.*, 499
Tchoka, *i.*, 468
Té, *f.*, 364
Tebelen, *t.*, 398
Tebessa, *t.*, 539
Tebessa, *m.*, 530, 532
Tebus, *peop.*, 547
Tech, *r.*, 117
Tees, *r.*, 448

Teeth, 13
Tegdempt, *t.*, 542
Teheran, *t.*, 489
Teignmouth, *b.*, 445
Tejuco, *t.*, 577
Tell country, 531, 539
Temes, *r.*, 325
Temesvar, *t.*, 325
Tempe, *v.*, 403
Templin, *t.*, 286
Tenchyra, *t.*, 528
Tenda, *p.*, 178
Tenda, *st.*, 550
Tendre, *m.*, 172
Tenedos, *i.*, 495
Tenerife, *i.*, 562
Tenez, *c.*, 536
Tenez, *t.*, 538
Teniet el Had, *f.*, 542
Tennasserim, *r.*, 479
Tennessee, *r.*, 601
Tensif, *r.*, 546
Ter, *r.*, 100
Teramo, *t.*, 381
Terceira, *i.*, 102
Terdoppio, *r.*, 359
Terglou, *m.*, 301
Termini, *t.*, 388
Ternate, *i.*, 509
Terneuse, *t.*, 228
Terni, *t.*, 378
Terra di Lavoro, *pr.*, 382
Terra di Bari, *pr.*, 382
Terracina, *t.*, 378
Terre d en Haut, *i.*, 616
Tertiary strata, 4
Teruel, *t*, 96
Teschen, *t.*, 294
Tessin, *r.*, 359
Test, *r.*, 445
Testeyro, *m.*, 84
Testry, *t.*, 163
Tet, *r.*, 118
Tete, *t.*, 557
Têto de Buch, 126
Tête de Flandre, *f.*, 228
Tête d'Or, *f.*, 185
Tetuan, *t.*, 546
Teutoburgerwald, *m.*, 263, 269
Teutons, 52, 107
Teverone, *r.*, 378
Texel, *i.*, 272
Tezcoco, *l.* and *t.*, 596
Thabor, *m.*, 177
Thame, *r.*, 447
Thames, *r.*, 447
Thanet, *i.*, 447
Thann, *t.*, 306
Thaso, *i.*, 408
Thau, *l.*, 128
Thaya, *r.*, 319
Thaya, *m.*, 532
Thaza, *t.*, 542
Thebais, *desert*, 522
Theben, *t.*, 318
Thebes, *t.*, 522
Thebes, *t.*, 404
Theiss, *r.*, 324
Theodosia, *t.*, 420
Therain, *r.*, 166
Theresienstadt, *t.*, 279
Thermopylæ, *p.*, 404
Theroumne, *t.*, 230
Thessalia, 391
Thiaki, *i.*, 406
Thian Shan, *m.*, 457, 501
Thiel, *t.*, 220
Thiele, *r.*, 209
Thiers, *t.*, 144
Thionville, *t.*, 217, 242, 243
Tholen, *i.*, 223, 229
Thomas, St., *i.*, 617
Thomas, St., *i.*, 562
Thonon, *t.*, 184
Thorn, *t.*, 296
Thouars, *t.*, 145
Thoue, *r.*, 145
Thousand Isles, *l.*, 610
Thrace, 391
Thrasymene, *l.*, 377
Three Crowns, *f.*, 289
Three Lords Peak, *m.*, 299, 300
Thun, *l.* and *t.*, 208
Thur, *r.*, 207
Thuringerwald, *ms.*, 273
Thuringians, 249
Tiaret, *m.*, 532
Tiaret, *f.*, 542
Tiber, *r.*, 377
Tibet, *pr.*, 472, 482
Ticino, *r.*, 359
Tides, 26
Tierra del Fuego, *i.*, 564, 571
Tiete, *r.*, 577
Tiflis, *t.*, 502
Tigre, *kgd.*, 524, 526
Tigris, *r.*, 490
Tilbury, *f.*, 447
Tille, *r.*, 188
Tilsit, *t.*, 427
Timbuctu, *t.*, 551
Tinos, *i.*, 407
Tintingue, *t.*, 560
Tinto, *r.*, 68
Tirano, *t.*, 361
Tiraspol, *t.*, 415
Tirlemont, *t.*, 232
Titicaca, *plt.*, 566
Titicaca, *l.*, 580
Titlis, *m.*, 202
Titri, *m.*, 529
Tivoli, *t.*, 378
Tlascala, *r.* and *t.*, 591
Tlemcen, *t.*, 543
Tlemcen, *m.*, 529
Tobago, *i.*, 615
Toblach, *p.*, 301
Tobol, *r.*, 464
Tobolsk, *t.*, 464
Tocantin, *r.*, 581
Toccia, *r.*, 359
Todi, *t.*, 377
Tödi, *m.*, 202
Tokat, *t.*, 500
Tokay, *t.*, 324
Tokmah Su, *r.*, 490
Toledo, *t.*, 76
Toledo, *m.*, 70
Tolentino, *t.*, 382
Tolmezzo, *t.*, 371
Tolosa, *t.*, 88
Tom, *r.*, 464
Tombigbee, *r.*, 601
Tomelloso, *t.*, 71
Tomsk, *t.*, 464
Tonale Alps, 346
Tonga, *is.*, 510
Tongres, *t.*, 226
Tonnay Charente, *b.*, 135
Tonnerre, *t.*, 160
Tonquin, *b.*, 455
Touquin, *kgd.*, 473
Toongabudra, *r.*, 483
Top of hills, 12
Topino, *r.*, 378
Torbay, *b.*, 445
Tordera, *r.*, 100
Tordesillas, *t.*, 81

Tordino, *r.*, 381
Torfou, *t.*, 146
Torgau, *t.*, 283
Torio, *r.*, 83
Tormes, *r.*, 78
Tornea, *r.*, 436
Tornea, *t.*, 436
Toro, *t.*, 81
Torquemada, *t.*, 83
Torre dell' Annunziata, *b.*, 379
Torres Vedras, *t.*, 75
Tors, 13
Tortona, *t.*, 356
Tortosa, *t.*, 97, 496
Tory, *i.*, 454
Tosas, *p.*, 98
Töss, *r.*, 207
Tott, *f.*, 400
Toucques, *r.*, 156
Touggourt, *t.*, 545
Toul, *t.*, 217, 243
Toulbroch, *f.*, 141
Toulon, *t.*, 181
Toulouse, *t.*, 127
Toundja, *r.*, 402
Tour du Pin, *t.*, 191
Tourmalet, *m.*, 121
Tournay, *t.*, 227, 240
Tournon, *t.*, 186
Tournoux, *t.*, 194
Tour Ronde, *f.*, 181
Tours, *t.*, 143, 145
Touvre, *r.*, 135
Towers, 13
Towns, 33
Trade-winds, 27
Trafalgar, *c.*, 46, 67
Trani, *t.*, 381
Tranquebar, *t.*, 484
Transition strata, 3
Transvaal, *rep.*, 557
Transylvania, *pr.*, 328
Trapani, *t.*, 387
Traras, *m.*, 529
Trasen, *r.*, 321
Traz os Montes, *pr.*, 85
Traun, *r.*, 320
Traunick, *t.*, 326
Trautenau, *t.*, 278
Trave, *r.*, 289
Trebbia, *r.*, 356
Trebigno, *t.*, 396
Trebinstizza, *r.*, 396
Trebizond, *pr.*, 498
Trebizond, *t.*, 500
Treguier, *t.*, 153
Tremet, *p.*, 141
Trent, *r.*, 448
Trent, *t.*, 365
Trenton, *t.*, 605
Trentschin, *t.*, 320
Treport, *t.*, 155, 169
Tre Porti, *port*, 370
Tres Forcas, *c.*, 514
Treves, *t.*, 217
Treviso, *t.*, 370
Trevoux, *t.*, 188
Trezzo, *t.*, 361
Tribes, 32
Tributaries, 8
Tricala, *t.*, 403
Trichinopoly, *t.*, 484
Trier, *t.*, 217
Trieste, *t.*, 372
Trimab, *r.*, 487
Trincomalee, *t.*, 478
Trinidad, *i.*, 614
Trinity Land, *i.*, 571
Tripoli, *t.*, 496, 528
Tripolitza, *t.*, 406
Tristan da Cunha, *is.*, 561
Trivandrum, *t.*, 484
Troeadero, *cl.*, 67
Trois Ellions, *m.*, 177
Trois Ilets, *t.*, 615
Trois Têtes, *f.*, 193
Troisville, *t.*, 225
Trompia, *v.*, 363
Tronto, *r.*, 381
Tropez, St., *t.*, 182
Troppau, *t.*, 293
Troyes, *t.*, 156
Truillas, *t.*, 118
Truxillo, *t.*, 595
Tsien-tang, *r.*, 471
Tsunling, *m.*, 466, 475
Tua, *r.*, 83
Tuat country, 547
Tübingen, *t.*, 266
Tucuman, *plu.*, 577
Tucuman, *t.*, 577
Tudela, *t.*, 96
Tuerto, *r.*, 83
Tula, *t.*, 424
Tulle, *t.*, 131
Tuln, *t.*, 317
Tultcha, *t.*, 330
Tunis, *t.*, 531
Turbigo, *t.*, 359
Turin, *t.*, 349
Turkheim, *t.*, 216
Turks, *peop.*, 527, 534
Turnau, *t.*, 279
Turukhansk, *t.*, 464
Tuscaloosa, *t.*, 601
Tuscan Sea, 47
Tuscany, *pr.*, 382
Tusis, *t.*, 205
Tutlingen, *t.*, 303
Tuy, *t.*, 84
Tver, *t.*, 423
Tvertza, *r.*, 425
Tweed, *r.*, 451
Tyne, *r.*, 448
Tynemouth, *f.*, 448
Tyrol, German, *pr.*, 315
Tyrol, Italian, *pr.*, 372
Tzaritzin, *t.*, 424
Tzerna Ricka, *r.*, 403

U.

Ubaye, *r.*, 194
Ubeda, *t.*, 68
Ucayali, *r.*, 582
Ucles, *t.*, 72*
Udine, *t.*, 371
Ujicza, *t.*, 327
Ukraine, *pr.*, 421
Uleaborg, *t.*, 431
Ulla, *r.*, 84
Ulm, *t.*, 304
Umea, *r.*, 415
Ungvar, *t.*, 324
United States of America, *rep.*, 607
Unna, *battle*, 269
Unstrutt, *r.*, 285
Unterseen, *t.*, 208
Upernavik, *t.*, 613
Upsala, *t.*, 437
Urbino, *t.*, 382
Urbion, *m.*, 79
Uratuppa, *f.*, 503
Uruguay, *rep.*, 578
Uruguay, *r.*, 577
Urgel, See de, *t.*, 98
Uri, Hole, 209
Urt, *t.*, 122
Usedom, *i.*, 293
Ushant, *i.*, 141

Uskiub, *t.*, 403
Uspallata, *mine*, 575
Usuri, *r.*, 470
Utah, *sta.*, 593
Utrecht, *pr.*, 272
Utrecht, *t.*, 221

V.

Vaal, *r.*, 557
Vaas, St., *t.*, 154
Vaduz, *t.*, 206
Vaise, *f.*, 185
Valais, *canton*, 183, 195
Valayrac, *t.*, 129
Valdai, *m.*, 50
Valdai, *plt.*, 409
Valdieu, *p.*, 172
Valdivia, *t.*, 589
Valence, *t.*, 186
Valencia, *t.*, 96
Valencia, *pr.*, 101
Valenciennes, *t.*, 227, 239 240
Valenza, *t.*, 84, 351
Valerien, Mont, *f.*, 159
Valery, St., *t.*, 155, 169
Valetta, *t.*, 388
Valladolid, *t.*, 83, 592
Vale, 17
Valleys, 7, 17
Vallum Severi, 414
Valmy, *t.*, 150
Valoutina, *t.*, 416
Valparaiso, *t.*, 589
Vals, *t.*, 99
Valspir, *p.*, 117
Valtelina Alps, 346, 347, 361
Valvasone, *t.*, 371
Vancouver, *i.*, 565, 594
Van Diemen's Land, *i.*, 512
Vanikoro, *i.*, 511
Vannes, *t.*, 140
Vanves, *f.*, 159
Vanville, *f.*, 154
Var, *r.*, 194
Var, *dep.*, 196
Vardar, *r.*, 403
Vardehus, *t.*, 439
Varennes, *t.*, 166
Varese, *t.*, 360
Varna, *t.*, 332
Vascons, *peop.*, 106
Vauban, *f.*, 213
Vauchamps, *t.*, 164
Vaucluse, *dep.*, 196
Vecht, *r.*, 221, 270
Vecre, *t.*, 229
Veglia, *i.*, 396
Velay, *m.*, 138
Velikaia, *r.*, 428
Veliki Balkan, *m.*, 302
Velino, *r.*, 378
Velizy, *t.*, 159
Vellore, *t.*, 484
Venant, St., *t.*, 230, 239
Venasque, *p.*, 92
Venasque, *f.*, 99
Vendée, *dep.*, 137
Vendée, *pr.*, 136
Vendôme, *t.*, 147
Vendres, Port, *t.*, 118
Venetia, *pr.*, 372
Venezuela, *is.*, 587
Venezuela, *rep.*, 586
Venice, *t.*, 368
Venloo, *t.*, 223
Venoso, *t.*, 381
Ventimiglia, *t.*, 182, 195
Ventoux, *m.*, 178
Ventuari, *r.*, 585
Vera Cruz, *t.*, 596
Verapaz, *t.*, 595
Verbas, *r.*, 326
Verberie, *t.*, 166
Vercelli, *t.*, 358
Verde, *c.*, 513
Verden, *t.*, 275
Verdon, *r.*, 194
Verdun, *t.*, 187, 222, 242
Vergeroux, *f.*, 135
Verneuil, *t.*, 162
Vernon, *t.*, 160
Verona, *t.*, 366
Versailles, *t.*, 159
Verrua, *t.*, 350
Vertentes, *ms.*, 573
Vesder, *r.*, 225
Vesle, *r.*, 167
Vesoul, *t.*, 189
Vesubia, *r.*, 194
Vesuvius, *m.*, 373
Vezelay, *t.*, 160
Vezere, *r.*, 131
Vianen, *t.*, 221
Viasma, *t.*, 416
Viborg, *t.*, 430
Vicenza, *t.*, 368
Vich, *t.*, 100
Vichy, *t.*, 144
Victoria, *t.*, 594
Victoria, *pr.*, 512
Victoria Fall, 557
Victoria Nyanza, *l.*, 520
Vie, *r.*, 136
Vienna, *t.*, 317
Vienna, *forest*, 301
Vienne, *r.*, 140
Vienne, Upper, *dep.*, 147
Vienne, *t.*, 186
Vierzon, *t.*, 144
Vigevano, *t.*, 359
Vigo, *t.*, 81
Vilaine, *r.*, 147
Vilia, *r.*, 427
Villa Bella, *t.*, 583
Villach, *t.*, 325
Villafranca, *t.*, 88, 182, 367
Villages, 33
Villaharta, *t.*, 71
Villalongue, *t.*, 118
Villarica, *t.*, 577
Villaviciosa, *t.*, 77
Villa Viçosa, *t.*, 581
Villefranche, *t.*, 119, 128, 130
Villeneuve d'Agen, *t.*, 130
Villeneuve St. Georges, *t.*, 163
Villette, La, *t.*, 164
Villeurbanc, *f.*, 185
Villimpenta, *t.*, 367
Villingen, *t.*, 303
Vilna, *t.*, 427
Vils, *r.*, 312
Vilshofen, 307, 312
Vimiero, *t.*, 75
Vinadio, *f.*, 354
Vincennes, *t.*, 157
Vincent, St., *i.*, 615
Vincent, St., *c.*, 71
Vincent, St., *f.*, 194
Vindelicia, 248
Vindhya, *ms.*, 477
Vingt-quatre-heures, *f.*, 537
Vire, *r.* and *t.*, 156
Virgin, *is.*, 617
Viroin, *r.*, 224

Visigoths, 106
Viso, *m.*, 177
Vistre, *r.*, 183
Vistritza, *r.*, 403
Vistula, *basin*, 295
Vistula, *r.*, 296
Vitchegda, *r.*, 432
Vitepsk, *pr.*, 428
Vitepsk, *t.*, 428
Viterbo, *t.*, 377
Vitre, *t.*, 147
Vitriolerie, *f.*, 185
Vitry le Français, *t.*, 163, 243
Vittoria, *t.*, 97
Vivarais, *m.*, 138
Vivario, *f.*, 385
Viviers, *t.*, 186
Vizzavona, *f.*, 385
Vladekankas, *t.*, 423
Vodena, *t.*, 403
Vogelsgebirge, *ms.*, 263
Voghera, *t.*, 356
Voivodia, Servian, *pr.*, 328
Vojoutza, *r.*, 398
Volcanoes, 15
Volga, *r.*, 423
Volkow, *r.*, 429
Volo, *b.* and *t.*, 401, 403
Vologda, *t.*, 432
Volta, *r.*, 552
Volturno, *r.*, 379
Vooru, *i.*, 223
Vorarlberg, *ms.*, 260
Voreppe, *t.*, 192
Voronej, *t.*, 421
Vosges, *ms.*, 176, 202
Vosges, *dep.*, 219
Voumche, *m.*, 176
Vouga, *r.*, 81
Vouglé, *t.*, 145
Vouglé, *battle*, 133
Vouziers, *t.*, 166
Vrnita, *r.*, 353
Vrsoduk, *f.*, 326
Vukovar, *t.*, 324

W.

Waag, *r.*, 320
Waal, *r.*, 220
Wabash, *r.*, 601
Wachau, *t.*, 286
Wad Abbas, *r.*, 543
Wad Dardar, *r.*, 513
Wad el Mehl, *r.*, 542
Wad Ger, *r.*, 541
Wad Isser, *r.*, 543
Wad Jeddi, *r.*, 545
Wad Kebir, *r.*, 540
Wad Nahar Wassel, *r.*, 542
Wad Ourek, *r.*, 542
Wad Rion, *r.*, 542
Wad Rir. *tr.*, 545
Wad Sahel, *r.*, 540
Wad Seggar, *r.*, 545
Wad Souf, *tr.*, 545
Wagram, *t.*, 318
Wagram, *m.*, 320
Waitzen, *t.*, 318
Walcheren, *i.*, 229
Waldeck, *princ.*, 275
Waldshut, *t.*, 207
Wales, *prin.*, 441, 449
Wall, Great, China, 470
Wallachia, *pr.*, 332
Wallega country, 521
Wallenstadt, *l.*, 210
Wallo, *sta.*, 549
Wanas, *f.*, 437
Warasdin, *t.*, 325
Warberg, *t.*, 437
Warburg, *t.*, 274
Wargala, *tr.*, 545–7
Warnemund, *f.*, 292
Warsaw, *t.*, 296
Wartburg, *castle*, 275
Wartha, *r.*, 294
Warwick, *t.*, 449
Wasa, *t.*, 431
Wash, *b.*, 447
Washington, *t.*, 604
Wasserburg, *t.*, 312
Watawa, *r.*, 279
Water, *f.*, 537
Waters, 8
Watercourse, 7, 20
Waterfall, 21
Water-parting, 7
Watershed, 7
Watershed, maritime, 8
Wateree, *r.*, 603
Waterford, *t.*, 453
Waterloo, *t.*, 232
Watteringhes district, 235
Wattignies, *t.*, 225
Wavre, *t.*, 232
Wehlau, *t.*, 427
Weichsel, *r.*, 296
Weichselmünde, *f.*, 296
Whei-ho, *r.*, 470
Weimar, *t.*, 285
Weissembourg, *t.*, 216, 243
Weissenfels, *t.*, 284
Weistritz, *r.*, 293
Wellington, *t.*, 511
Welsh, *m.*, 449
Wener, *l.*, 437
Wernitz, *r.*, 307
Werra, *r.*, 274
Wertach, *r.*, 309
Wertheim, *t.*, 267
Wertingen, *t.*, 309
Wesel, *t.*, 215
Weser, *basin*, 273
Weser, *r.*, 274
Westeras, *t.*, 437
Western, *i.*, 451
Western Australia, *pr.*, 512
Westerwald, *ms.*, 263
Westphalia, *pr.*, 275
Westphalia, Gate of, *p.*, 274
Westpoint, *t.*, 606
Wetter, *l.*, 437
Wetzlar, *t.*, 268
Wexford, *t.*, 453
Wexholm, *f.*, 437
Whiddy, *i.*, 454
White River, 606
White Sea, 36
White Mountains, 179
Whitby, *t.*, 448
Whydah, *t.*, 552
Widin, *t.*, 330
Wied, *r.*, 268
Wieliczka, *t.*, 296
Wiener Neustadt, *t.*, 322
Wiener Wald, *ms.*, 301
Wieprz, *r.*, 297
Wieselburger Donau, *r.*, 318
Wight, *i.*, 446
Wilhemstad, *t.*, 274
Willemstad, *t.*, 223
William, *f.*, 452
William, Fort, *t.*, 610
William, Castle, *f.*, 606
William Henry, *f.*, 611

Wilmington, *t.*, 603, 605
Winchester, *t.*, 604
Windsor, *t.*, 447
Windward Islands, 614
Winnipeg, *l.*, 612
Winnipeg, *r.*, 612
Winterthur, *t.*, 207
Wippach, *r.*, 371
Wipper, *r.*, 269
Wisby, *t.*, 437
Wismar, *t.*, 291
Witham, *r.*, 448
Wittenberg, *t.*, 283
Wlaardingen, *t.*, 508
Woahou, *i.*, 510
Wolfenbüttel, *t.*, 275
Wollaston, *l.*, 613
Wollin, *i.*, 293
Woolwich, *t.*, 447
Worcester, *t.*, 449
Worms, *t.*, 214, 361
Worskla, *r.*, 418
Wuchau, *t.*, 471
Würtemberg, 265, 269, 314
Würzburg, *t.*, 267
Wurzen, *t.*, 284
Wutach, *r.*, 264

X.

Xarama, *r.*, 77
Xeres, *see* Jeres
Xevora, *r.*, 73
Xingu, *r.*, 583
Xucar, *see* Jucar

Y.

Yacubia, *m.*, 529
Yaila, *m.*, 419
Yambo, *t.*, 493
Yanaon, *t.*, 483
Yang-tse-Kiang, *r.*, 471
Yani, *sta.*, 550
Yapura, *r.*, 583
Yare, *r.*, 448
Yarkand, *r.* and *t.*, 504
Yarmouth, *t.*, 448
Yarra, *r.*, 512
Yavari, *r.*, 582
Yauri, *pr.*, 551
Ybeira, *l.*, 575
Yeddo, *t.*, 468
Yellow Sea, 36, 455
Yellowstone, *r.*, 600
Yemen, *pr.*, 492
Yenikale, Strait of, 48
Yeniseisk, *t.*, 464
Yenissei, *r.*, 464
Yeou, *r.*, 553
Yeres, *is.*, 163
Yeshil Ermak, *r.*, 500
Yesso, *i.*, 468
Yolofs, *peop.*, 549
Yomadung, *m.*, 477
Yon, *r.*, 136
Yonne, *r.*, 160
Yonne, *dep.*, 170
York, *t.*, 448
York, *r.*, 604
York Factory, *t.*, 612
York Town, 604
Yoruba, *sta.*, 551
Yperle, *r.*, 235
Ypres, *t.*, 235, 239
Yser, *r.*, 235
Yssel, *r.*, 220
Ysselburg, *t.*, 220
Ysselmonde, *i.*, 223
Yucatan, *channel*, 563
Yucatan, *pn.*, 564, 595
Yunling, *m.*, 466
Yverdun, *t.*, 209

Z.

Zaatcha, *oasis*, 545
Zab, *r.*, 491
Zacatecas, *t.*, 592
Zadorra, *r.*, 97
Zahuapan, *r.*, 591
Zaine, *r.*, 532
Zaire, *r.*, 554
Zaisian, *l.*, 464
Zambesi, *r.*, 557
Zamora, *t.*, 81
Zamosc, *t.*, 297
Zante, *i.*, 406
Zanzibar country, 558
Zara, *t.*, 396
Zaradrus, *r.*, 486
Zares, *plt.*, 544
Zatas, *r.*, 77
Zealand, *i.*, 289
Zealand, *pr.*, 272
Zehdenick, *t.*, 286
Zeitoum, *l.*, 401
Zeitoum, *t.*, 404
Zeitz, *t.*, 285
Zelandia, *f.*, 584
Zell, *l.*, 206
Zendarood, *r.*, 489
Zeng, *t.*, 396
Zer Affshan, *r.*, 503
Zernetz, *t.*, 312
Zeyla, *t.*, 526
Zezere, *r.*, 78
Zibans country, 545
Zierickzee, *t.*, 229
Zihl, *r.*, 209
Zittau, *t.*, 293
Zloczow, *t.*, 297
Znaym, *t.*, 319
Zollverein, 257
Zorn, *r.*, 216
Zorndorf, *t.*, 292
Zubiri, *t.*, 92
Zug, *l.*, 209
Zuiderzee, 45, 271
Zuja, *r.*, 72
Zullichau, *t.*, 292
Zulus, *peop.*, 557
Zurich, *l.* and *t.*, 210
Zurrah, *l.*, 489
Zusam, *r.*, 309
Zusmershausen, *t.*, 309
Zvornik, *t.*, 326
Zweibrücken, *t.*, 219
Zwickau, *t.*, 284
Zwoll, *t.*, 220

LONDON: PRINTED BY EDWARD STANFORD, 6, CHARING CROSS, S.W.

Wilmington, *t.*, 603, 605
Winchester, *t.*, 604
Windsor, *t.*, 447
Windward Islands, 614
Winnipeg, *l.*, 612
Winnipeg, *r.*, 612
Winterthur, *t.*, 207
Wippach, *r.*, 371
Wipper, *r.*, 269
Wisby, *t.*, 437
Wismar, *t.*, 291
Witham, *r.*, 448
Wittenberg, *t.*, 283
Wlaardingen, *t.*, 508
Woahou, *i.*, 510
Wolfenbüttel, *t.*, 275
Wollaston, *l.*, 613
Wollin, *i.*, 293
Woolwich, *t.*, 447
Worcester, *t.*, 449
Worms, *t.*, 214, 361
Worskla, *r.*, 418
Wuchau, *t.*, 471
Würtemberg, 265, 269, 314
Würzburg, *t.*, 267
Wurzen, *t.*, 284
Wutach, *r.*, 264

X.

Xarama, *r.*, 77
Xeres, *see* Jeres
Xevora, *r.*, 73
Xingu, *r.*, 583
Xucar, *see* Jucar

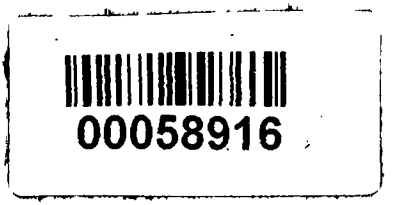
Y.

Yacubia, *m.*, 529
Yaila, *m.*, 419
Yambo, *t.*, 493
Yanaon, *t.*, 483
Yang-tse-Kiang, *r.*, 471
Yani, *sta.*, 550
Yapura, *r.*, 583
Yare, *r.*, 448
Yarkand, *r.* and *t.*, 504
Yarmouth, *t.*, 448
Yarra, *r.*, 512
Yavari, *r.*, 582
Yauri, *pr.*, 551
Ybeira, *l.*, 575
Yeddo, *t.*, 468
Yellow Sea, 36, 455
Yellowstone, *r.*, 600
Yemen, *pr.*, 492
Yenikale, Strait of, 48
Yeniseisk, *t.*, 464
Yenissei, *r.*, 464
Yeou, *r.*, 553
Yeres, *is.*, 163
Yeshil Ermak, *r.*, 500
Yesso, *i.*, 468
Yolofs, *peop.*, 549
Yomadung, *m.*, 477
Yon, *r.*, 136
Yonne, *r.*, 160
Yonne, *dep.*, 170
York, *t.*, 448
York, *r.*, 604
York Factory, *t.*, 612
York Town, 604
Yoruba, *sta.*, 551
Yperle, *r.*, 235
Ypres, *t.*, 235, 239
Yser, *r.*, 235
Yssel, *r.*, 220
Ysselburg, *t.*, 220
Ysselmonde, *i.*, 223
Yucatan, *channel*, 563
Yucatan, *pn.*, 564, 595
Yunling, *m.*, 466
Yverdun, *t.*, 209

Z.

Zaatcha, *oasis*, 545
Zab, *r.*, 491
Zacatecas, *t.*, 592
Zadorra, *r.*, 97
Zahuapan, *r.*, 591
Zaine, *r.*, 532
Zaire, *r.*, 554
Zaisian, *l.*, 464
Zambesi, *r.*, 557
Zamora, *t.*, 81
Zamose, *t.*, 297
Zante, *i.*, 406
Zanzibar country, 558
Zara, *t.*, 396
Zaradrus, *r.*, 486
Zares, *plt.*, 544
Zatas, *r.*, 77
Zealand, *i.*, 289
Zealand, *pr.*, 272
Zehdenick, *t.*, 286
Zeitoun, *l.*, 401
Zeitoun, *t.*, 404
Zeitz, *t.*, 285
Zelandia, *f.*, 584
Zell, *l.*, 206
Zendarood, *r.*, 489
Zeng, *t.*, 396
Zer Affshan, *r.*, 503
Zernetz, *t.*, 312
Zeyla, *t.*, 526
Zezere, *r.*, 78
Zibans country, 545
Zierickzee, *t.*, 229
Zihl, *r.*, 209
Zittau, *t.*, 293
Zloczow, *t.*, 297
Znaym, *t.*, 319
Zollverein, 257
Zorn, *r.*, 216
Zorndorf, *t.*, 292
Zubiri, *t.*, 92
Zug, *l.*, 209
Zuiderzee, 45, 271
Zuja, *r.*, 72
Zullichau, *t.*, 292
Zulus, *peop.*, 557
Zurich, *l.* and *t.*, 210
Zurrah, *l.*, 489
Zusam, *r.*, 309
Zusmershausen, *t.*, 309
Zvornik, *t.*, 326
Zweibrücken, *t.*, 219
Zwickau, *t.*, 284
Zwoll, *t.*, 220

LONDON: PRINTED BY EDWARD STANFORD, 6, CHARING CROSS, S.W.


00058916

Digitized with financial assistance from
Government of Maharashtra
on 30 January, 2020